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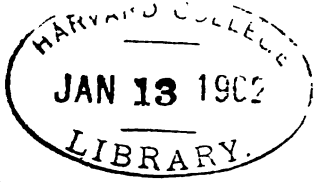

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MUSICAL INSTRUMENTS USED IN INDIA.

A FOREWORD.

IN viewing a great work accomplished, it is always interesting to trace the process of evolution which has been the means of arrival at the successful outcome. The achievement of the great pianoforte makers in bringing that instrument to its present popular and general use is a great work. Indispensable the pianoforte has now become, but how few know what it meant to own one a century ago, and how small were the beginnings of the industry which has developed until it has become one of the very first importance.

The history of Chickering & Sons is the history of music in America. The immediate predecessors of Jonas Chickering laid the foundation, and he and his successors have built upon it, step by step, the splendid structure which to-day commands the admiration of the whole musical world.

The house of Chickering & Sons, Pianoforte Makers, is the oldest in America. It was established in 1823.

The making of a pianoforte was at that time an event, and the first instrument made by Jonas Chickering, shown in this exhibition, and those of his contemporaries, Alpheus Babcock, John Mackay, and John Osborn, were works of art, the successful completion of which was of sufficient importance to receive extended public mention. From that early time to the present day the house of Chickering & Sons has made pianofortes continuously, and have more than any other makers been the exponents of the latest and most

CATALOGUE.

1 SQUARE PIANO. Made in London by Christopher Ganer for Princess Amelia, youngest daughter of George III. She gave it to the chaplain of the royal family, whose daughter married a Mr. Odiorne, an American, and he brought it to Boston. It was sold in this city to Gen. John Montgomery, and taken to Medford, Mass., where it was used at the school for young ladies kept by Mrs. Susan Rawson, author of "Charlotte Temple." The piano some time afterwards was sent to Haverhill, N. H., where it was in use many years. Later, it was taken to New Ipswich, N. H., where its real historic importance in connection with the firm of Chickering & Sons begins. Mr. Jonas Chickering, founder of the house, was in the last year of his apprenticeship, at the age of nineteen, with a cabinet-maker named John Gould, when this old instrument was brought to them to be tuned and repaired. The young apprentice, although he never had seen a piano, and, of course, was wholly unacquainted with its complicated structure, successfully undertook the task of restoring it to usefulness. The piano is five octaves, the keyboard extending two-thirds the entire length of the instrument. At a later date organ pipes and bellows were added to the piano and placed in the body of the instrument under the strings.

2 CHAMBER UPRIGHT PIANO. Made in England and is believed to be the first upright piano ever made. The case is of satinwood, inlaid with walnut, amboyna, and other woods, and was at one time the property of Lady Morgan of London. It has l

32 TOMBI or DRUM. Pueblo Indians.

33 FIDDLE and BOW. Apache Indian. Single horsehair string.

34 B♭ KEYED BUGLE. Copper.

35 COR DE CHASSE. Half circular. Europe.

36 GONG. Wooden stand.

37 DRUM.

38 DRUM. New Guinea.

39 TUNTUNI. India. Used by Mendicants who strike the string attached to the bow and cocoanut and dance along the streets or at fairs. The instrument is supposed to have been imported from Africa. There is little music in it.

40 STICK OF WOOD, attached to which are strips of leather on which are fastened bells, shells, and beads. Probably from Arabia.

41 SITAR. Guitar. India. Flat body. A popular instrument for accompaniments.

42 SITAR. Guitar. Gourd body, large.

43 ZITHER. Germany.

44 RABAB. Algiers. The name seems to apply to the whole race of two-stringed instruments found from Morocco to the Philippine Islands. It is played as the player squats cross-legged on the floor. It has two gut strings of different sizes. The lower portion is covered with goatskin parchment, the upper of fine perforated brass. Played with a horsehair bow.

45 STRINGED INSTRUMENT. Probably India. Strings and neck missing.

46 BIN-BEN. India. The "pot-bellied flageolet," used by snake

FIRST PIANO MADE BY JONAS CHICKERING, FOUNDER OF THE HOUSE OF CHICKERING & SONS.

50 BALALAIKA. Russian fiddle.

51 GOURD INSTRUMENT. Cuba. Played by rubbing a stick over its corrugated surface.

52 LOMBARDY LUTE. Italy. Made in 1630. The lute is probably of Oriental origin. The name comes from the Arabic, and signifies "wood."

53 P'I-P'A or BALLOON GUITAR. China. Body of wood. It has four silk strings which represent the four seasons. Of more or less ancient origin. On the neck table are eleven or twelve frets. The strings are tuned C, F, G, C.

54 TRUMPET. Probably China. Brass.

55 LAOS ORGAN. Siam.

56 STRINGED INSTRUMENT. Probably Russia. Bow No. 189.

57 TURI. Trumpet. China. Brass.

58 ALPINE HORN. Switzerland.

59 MRIDANGA. Drum. India.

60 DRUM. India.

61 GUENBRI. Drum. Arabia. Body of wood, with heads of skin. Ornamented with fringed leather, shells, and beads. Heads decorated with red paint.

62 GUENBRI. Drum. Arabia. Body of wood, with heads of skin. Ornamented with fringed leather, shells, and beads. Heads decorated with red paint.

63 SLIDE TROMBONE B♭. France. Dragon's-head.

64 ÆOLIAN. Window harp. Name derived from Æolus, the god of the winds. Owes its origin to the monochord, a string stretched upon two bridges over a soundboard.

65 ORGAN PIPE. Lead.

66 STRINGED INSTRUMENT.

67 GUITAR. Gourd body.

played by placing the aperture close to one nostril and breathing.

70 MUSSETTE. France.

71 SCORE. Manuscript.

72 FACSIMILE OF PURCELL'S HYMN, "Come, Come, ye sons of Abraham," Samuel Wesley's "Ec ce jam Noc-tis," and J. S. Bach's Violin Score.

73 AUTOGRAPH LETTER OF MOZART.

74 PAGE OF HYMNAL. 1708.

75 SCORE OF
The Earl of Kelly.
Arnold.
Dr. Croft.
Dr. Arne.

76 SCORE OF
Pleyel.
Dr. Boyte.
Dibdin.
Tartini.
Shield.
Haydn.

77 STICK OF WOOD, trimmed with strips of leather, to which are attached shells and beads. Probably from Arabia.

78 BOW. China.

79 BOW. China.

80 AUTOGRAPH LETTER OF MEYERBEER.

81 VIOLONCELLO BOW. Japan.

82 CHART. Japan. Tones produced by Sho.

NO. 666. EDWARD KENDALL'S BUGLE. NO. 1147. THOMAS MOORE'S HARP.
NO. 505. OPHICLEIDES.

87 CHART. Japan. The Koto and Kokiu as applied to school music.

88 CHART. Japan. Tunings of the Biwa.

89 CHART. Japan. Tunings of the Kokiu and of the Siaku-Hachi.

91 DIAGRAMS OF HINDU INSTRUMENTS.

92 VIOLIN.

93 KOKIU BOW. Japan.

94 KOKIU. Japan. Four strings. A popular instrument.

95 SCHOSCHI. Japan. Twelve pipes and case. Tuning chromatic scale. Used for pitch-pipes.

96 SIAKU-HACHI, or PRIMITIVE FLUTE. Japan. Bamboo.

97 RIUTEKI (Fuye). Bamboo flute. Japan. A popular instru-
98 ment.

99 INSTRUMENT CASE. Japan.

100 HICHI-RIKI and CASE. Oboe. Japan. Is used in processions.

101 OLD PITCH-PIPE from the First Church, Northfield, Mass. Latter part of 18th century.

102 VIOLIN and BOW. North American Indians.

103 CHOTONKA-CHANTA-KI-YAPI. Love flute of North American Indian. Popular with Indian lovers in serenading.

104 CLAY BAZOO.

105 MINIATURE GUITAR. Made by Ixmiquilmam Indians.

106 WHISTLE. Made of pigtail. This instrument has an interesting story in connection with the organization of the New England Conservatory of Music.

107 MUSIC BOOK. Japan.

110 SCORE. By Mr. Shibo, one of the leaders of the court musicians, Japan. MS.

111 "A VIEW OF MODERN PSALMODY." Being a humble attempt to reform the practise of singing in the worship of God. By William Cole. MS.

112 "APPENDIX." Specimen pieces of Japanese music.

113 "CALLCOTTO GRAMMAR OF MUSIC." Department of Education, Japan.

114 "CHINESE MUSIC." Published by the Inspector-General of Customs, Shanghai.

115 ILLUMINATED PARCHMENT. About 1500.

116 ILLUMINATED PARCHMENT. About 1500.

117 GERMAN HYMNAL.

118 "COLUMBIAN AND EUROPEAN HARMONY; OR, THE BRIDGEWATER COLLECTION OF SACRED MUSIC." By Bartholomew Brown, and others. 2d edition. Boston. 1804.

119 HYMN-BOOK. Title missing.

120 "THE ART OF SINGING IN THREE PARTS." By Andrew Law, Cheshire, Conn. 1803.

121 "HYMNS FOR ASCENSION DAY." London. J. Paramore. 1784.

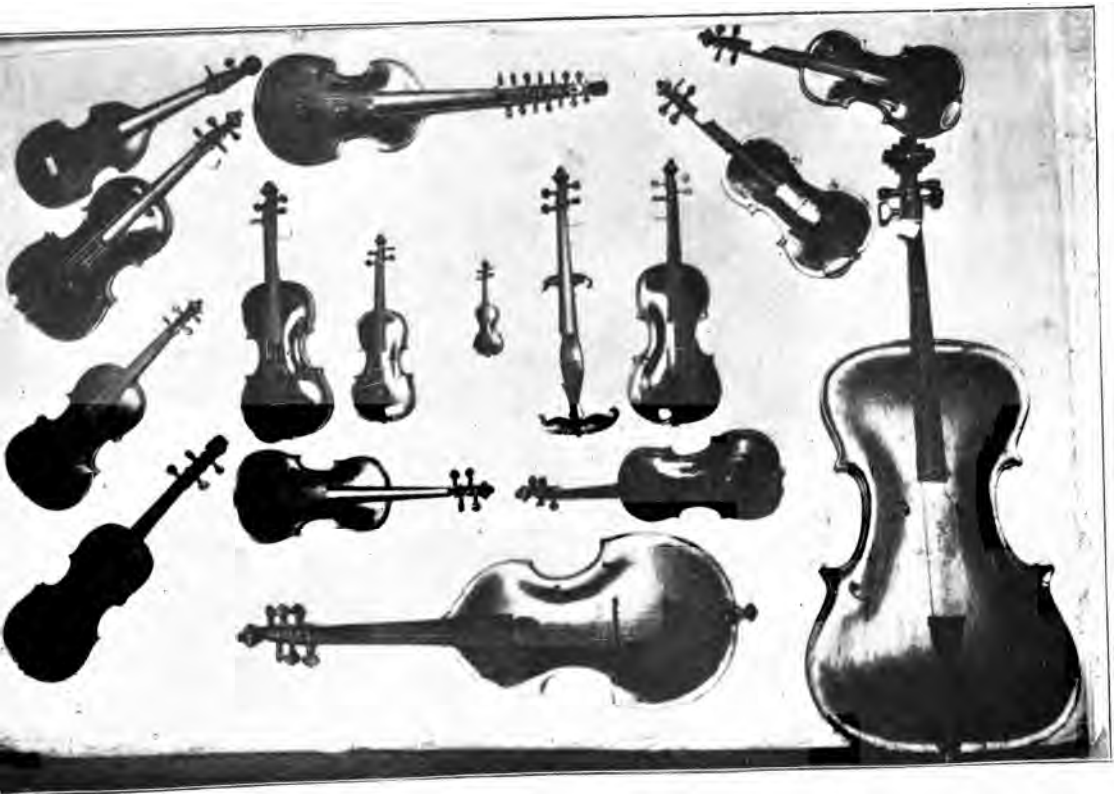
122 "THE NEW ENGLAND PSALM-SINGER OR AMERICAN CHORISTER." By William Billings, Boston.

123 "UNION HARMONY." By Stephen Humbert, St. John, N. B. 1831. 3d edition.

124 GERMAN HYMNAL.

125 "AMERICA." By Samuel F. Smith. MS.

126 "THE PSALMS, HYMNS, AND SPIRITUAL SONGS OF THE OLD AND NEW TESTAMENT." Edinburgh, England. 1738. 18th edition.



AN INTERESTING AND VALUABLE GROUP.

129 "THE CALEDONIAN POCKET COMPANION, ETC." By Mr. Oswald, London.

130 "GROUNDS AND RULES OF MUSIC." By Thomas Walter, Roxbury, Mass. 1721. The first book in America engraved with bars.

131 "MASSACHUSETTS HARMONY." Boston. 1803.

132 GERMAN MUSIC BOOK.

133 MELOPHONE. Reed instrument. France.

134 TABLA. Hand drum used in connection with the Daggi.

135 SHIU-CHA. Cymbals. China.

136 ALGOZA. India. Whistles or flageolets made of iron, and played slowly for the player's amusement as he walks along the road. The two are played together.

137 TWIN DRUM. A companion of No. 47.

138 BELLS.

139 GONG.

140 GONG. China.

141 TRIANGLE.

142 MINIATURE STRINGED INSTRUMENT.

143 SMALL HAND DRUM.

144 BELL. China.

145 RATTLE. China.

148 JEW'S-HARP.

149 *SHO.* Mouth organ. Japan. Identical with the Chinese Cheng. A bowl-shaped body of lacquered wood, forming a reservoir, having a mouthpiece on one side and seventeen bamboo pipes, varying in length, inserted in the top. Thirteen of these pipes are fitted with free reeds, and each has a small

150 GEKKO. Moon drum. Japan. Body of wood. Skin riveted to frame.

151 RATTLE.

153 BELL. China.

154 CASTANETS. China.

155 CHING. Cymbals. Japan. Two small brass discs with flat and conical edges.

156 GONG.

157 SHIU-CHA. Cymbals, small. China.

158 SHIU-CHI. Cymbals. China. Two discs of brass with small boss in center. Broad, flat edges.

159 TAMBOURINE.

160 GUENBRI. Drum. Arabia. Body of wood, with heads of skin. Ornamented with fringed leather, shells, and beads. Heads decorated with red paint.

161 BOW.

162 SARANGI. Ancient viol of India. Used by Hindus and Mohammedans as an accompaniment for dancing. Much used in the dissipated orgies of the Orient.

163 TASHA. The kettle-drum of India. Very noisy. Played by two bamboo sticks. Held by string around the neck. Usually played by boys in marriage processions. The instrument is accompanied by a large bass drum and cymbals.

164 SAZINDA. Viol. India. Played for dancing by boys and girls at fairs, feasts, etc.

165 LO. Gong. China.

167 OO'D. Guitar of modern Egypt. Made in 1709.

168 HAND BELL. China.

171 KEY OF THE ORGAN used at Christ Church, Cambridge, Mass., in 1764. The pipes of this organ were molded into bullets by the British soldiers and used in the Battle of Bunker Hill. It was repaired in 1790 and did good service until 1844, when it was removed. The organ was purchased by Barlow Trecothic, the Lord Mayor of London. Attached to the key of this organ is the autograph of the maker

JOHN SNETZLER,
LONDINI, FECIT, 1761.

This organ was like No. 1027.

172 FLUTE.

174 MINIATURE VIOLIN.

175 BOW. Ancient.

176 STRINGED INSTRUMENT.

177 TI-TZU. Vertical flute. China. Bamboo, bound with black silk cord. Seven finger-holes in front, two in back.

178 NAKKA. No. 2. Played with left hand.

179 GUENBRI. Stringed instrument. Arabia. Body of wood, with head of skin. Ornamented with fringed leather, shells, and beads. Head decorated with red paint.

180 NAGELGEIGE. Nail violin. Germany.

181 NALLARI. Oboe. Japan. Conical tube of wood, with seven holes in front and one in back, finished with a brass bell.

182 GENKWAN. China. Octagonal body of wood, with slender neck, finished with peg-box, surmounted by carved ornament. There are four conical pegs, two on either side, carrying four silk strings, which pass over twelve frets and are fastened to a tail-piece near base of body. Played with plectrum.

183 GUENBRI. Stringed instrument. Arabia. Body of wood, with head of skin- and beads. Head ornamented with fringed leather, shells, decorated with red paint.

186 PIPES. Bamboo.

187 STICK OF WOOD, trimmed with strings of leather, to which are fastened shells, etc.

188 TIN FIDDLE.

189 BOW OF RUSSIAN STRINGED INSTRUMENT. No. 56.

190 TEIKIN. Fiddle. Japan. Body and head of wood. The long, slender neck is also of wood, with peg-box near the top, and passing through the body projects on the lower side. Two silk strings are fastened to this projection, and from it are carried to the pegs at the opposite end.

191 STRINGED INSTRUMENT. Played with five keys.

192 SITAR. Guitar. India.

193 BOW. Arabia.

194 CHARUMERA. Oboe. Japan. Same as No. 181, but longer.

195 SHANAI. Oriental clarinet. Used principally in marriage processions. A wild, loud noise. The reeds, bodkins, and pearl mouth-stop dangle from the instrument.

196 DAIRIR. Drum. India. Beaten with a small stick, the left hand gripping the cords to heighten or lower the sound. Used by sweepers or low-cast people.

198 GUENBRI. Stringed instrument. Arabia. Body of gourd, shaped like figure 8. Head of skin, decorated in color. Strings missing.

199 DAFF. Tambourine. Arabia. A square frame of wood, with two heads of skin, decorated in color.

200 DARABOUKKEH. Drum. Arabia. Same as No. 9 (small).

201 A REED INSTRUMENT.

202 BOW, trimmed with bells. Probably from India.

203 KURTAR. India. A pair of clappers. Each made of a framework of wood. with a curved handle on the back, and

O. I. SQUARE PIANO MADE BY CHRISTOPHER GANER, OF LONDON, FOR PRINCESS AMELIA.

205 GUENBRI. Stringed instrument. Arabia. Body of wood, with head of skin. Ornamented with fringed leather, shells, and beads. Head decorated with red paint.

206 SMALL VIOLIN.

207 ZITHER. Sixteen strings.

208 ÆOLIAN. A window harp.

209 BAGPIPE.

210 TSENG. Dulcimer. Twenty sets of strings in combinations of three.

211 GONG STICK.

212 FLUTE. China.

213 YO-KIN. Stringed instrument. Japan. Body wood, upper surface convex.

214 DARA. A large tambourine played by Mohammedans in the villages during their social calls. It is accompanied by the voice.

215 MUSICAL TOP. China.

216 BOW.

217 CYMBALS. China. Brass.

218 CYMBALS. Same as No. 217.

219 GONG.

220 WOODEN RATTLE.

221 HEAD AND LACINGS OF DAGGI. Drum. India. Body of clay missing.

222 KINGRI. One stringed fiddle. Used by beggars as they visit the doors to beg. There is music in the bow as well as in the fiddle.

223 KOKIN. Fiddle. Japan. Body, a small cylinder of wood with snake-skin head. Neck of bamboo, with two lar wooden

225 BOW.

226 PIPE FROM THE CHRIST CHURCH ORGAN.

227 CLAPPERS. Chinese. Wooden. Chinese beggars use them as a means of extorting money from shop-keepers who pay the rogues to "move on."

228 FLUTE.

231 "ANTIPHONALE." Printed in Paris by Fredericus Leonard. 1690.

232 "LE NOUVEAU TESTAMENT." 1690.

233, 234 } METHODIST HYMNS IN FUCHAW COLLOQUIAL.

235 "BESIENEND HERANSGEGEBEN." Von John Friedrich Reichardt.

236 "THE WORCESTER COLLECTION OF SACRED HARMONY." By Oliver Holden, Boston. 1800.

237 HYMN BOOK. 1808.

238 "IL TEATRE, ACCA MODA." MS.

239 "PSALTER." Printed at Paris by Sebastiani Mabre-Cramoisy. 1661.

Numbers 1 to 239 loaned by the New England Conservatory of Music.

240 SQUARE PIANO. Made by George Astor, London, Eng., about 1780.

241 PIANO. Made by Jacobus, Grosvenor Square. Patent. Londini. Five octaves. Bought from the British council, in Boston, the latter part of the eighteenth century.

242 SQUARE PIANO. Made by F. G. Aerts, Antwerp, Belgium.

243 BRONZE MEDAL, bearing on one side the head of Rouget de Lisle, author of the "Marseillaise," and on the reverse side the words and music of the song. Made in Paris in 1833.

244 HARMONICON, OR CASE OF SIXTEEN MUSICAL

of the seventeenth century. Benjamin Franklin improved the idea.

245 AN INTERESTING STRINGED INSTRUMENT, having the size and form of a violin, and seven strings of the viol d'amour. Finger-board modern for use as a violin. Sounding holes of unusual shape. Very old. Loaned by W. M. Beauchamp.

246 FIDDLE. Germany. Ancient type.

247 C KEYED BUGLE. Copper.

251 PAGANINI AUTOGRAPH.

252 VIOLA BOW. James Dodd. Long head.

253 VIOLIN BOW. Dodd. Ivory frog and screw.

254 VIOL D'AMOUR BOW. Long head. Ivory frog and screw.

255 VIOL D'AMOUR BOW. Long head. Ivory frog and screw.

256 GAMBA BOW.

257 VIOLIN BOW. Dodd.

258 GAMBA BOW. Very antique. Boxwood frog. Ivory screw. Used by the celebrated Gamba Virtuoso Paul de Wit, of Leipzig, on his tournée in Europe.

259 GAMBA BOW. Old French. Ivory frog and screw. Bearing Royal Arms of France by Foster.

260 VIOLIN BOW. Fluted.

261 VIOLIN BOW. Octagon. Italian.

262 VIOLIN BOW. Long head. Ivory frog and screw.

263 VIOLIN BOW.

264 VIOLA BOW. Old German. Brass screw.

265 VIOLIN BOW. "Cremaliere."

270 VIOLIN BOW. Old head.

271 POCHETTE BOW. By Francois Lupot.

272 VIOLONCELLO BOW.

280 POCHETTE (Sourdine).

Numbers 251 to 272, also 280, 417, 418, and 419 loaned by Mr. Carl Busch.

282 THOMAS JEFFERSON'S FAVORITE VIOLIN. Made by Nicolo Amati, 1660. This beautiful violin was christened "Pet" by its distingushed owner, who was a good musician. It fell into the hands of a slave of the ex-president, and then to the keeping of a negro named John Scott, of Charlottesville, Va., from whom Mr. Albert Hildebrandt bought it.

283 VIOLIN. Made of cedar and other woods that grew near the John Brown homestead.

284 VIOLIN. Made from English walnut and other wood that grew near the John Brown place and on the battlefield near Harper's Ferry.

285 VIOLIN. Made of the same woods as Nos. 283 and 284.

286 VIOLIN. Made by Joseph Skinner, about 1840, of strips of veneer glued together and pressed into shape by machinery. Mr. Skinner, in 1838, constructed a set of machines for forming the various parts of these instruments with speed and accuracy. In 1845 the factory was destroyed by fire. This violin is the only perfect specimen of his work.

287 "SOLDIER'S HYMN BOOK. MUSIC AND TUNES." Pocket book for the soldier. Christian commission. 1861–65.

288 "THE MINSTREL. A COLLECTION OF CELEBRATED SONGS SET TO MUSIC." Baltimore. 1812. Treble clef with words of song. By John Cole.

[illegible] BOOK OF SONGS FOR CHIL

294 "BOSTON ACADEMY COLLECTION CHURCH MUSIC." Boston. 1833.

295 "THE SACRED MINSTREL." Boston. N. D. Gould. 1839.

296 "DYER'S PHILA SELECTION OF SACRED MUSIC." 6th edition. New York. 1828.

297 "THE CHOIR. UNION COLLECTION OF CHURCH MUSIC, ETC." Boston. Lowell Mason. 1832.

298 OLD NEGRO MELODIES. Sheet music. "Old Rosin the Bow," "Old Dan Tucker," "Poor Lucy Neal," "Zip Coon," etc.

300 FIDDLE. Made from a turtle shell by Mr. H. H. Cowen.

301 VIOL D'AMOUR. Peculiar, with rosette. Many viols did not have soundholes. This rosette finally came in the form of soundholes in a guitar.

302 LUTE. In form of a guitar. The lute is of Oriental origin. The old lutenists had a notation of their own, now entirely obsolete, known as the "Tablature."

303 VIOLIN. Made by Gasper da Salo (Gasparo Bertolotti), 1542–1609. Probably the oldest in America. Bertolotti was born at Salo, in Lombardy, 1543. As was customary, he took his name in part from the town. The scroll marks the antiquity of the instrument.

304 POCHETTE FIDDLE, or KIT. They were a modification of the old rebec, used by dancing-masters of the eighteenth century. The rebec was the last descendant directly from the ancient type of fiddle. The kit took its place and was carried in the pocket of dancing-masters of the eighteenth century.

305 CLARINET FIDDLE. The maker thought a reedy tone could be produced by this method.

306 VIOL. India.

307 [illegible]

308 VIOLA. Made by Nicolo Amati.

309 VIOLA. Made by J. B. Vuillaume. From the Alard quartet.

310 CELLO. Made by Amati.

311 CELLO. Made by J. B. Vuillaume. From the Alard quartet.

312 VIOLIN. Made by Stradivarius. He was a pupil of Nicolo Amati, 1666; considered the greatest maker of violins that ever lived. Born in 1649; died December, 1737.

313 VIOLIN. Made by M. Jean B. Vuillaume, a noted French maker. These instruments were made about 1828, and were formerly owned by Delphin Alard, Vuillaume's son-in-law, and professor of violin in Paris conservatory.

314 VIOLIN. Berliner patent. Peculiar for its vibrations; does away with tail-piece.

315 VIOLIN. Russian. Has rounding edges and is free from corners.

316 VIOLIN FULL SIZE.

317 VIOLIN ⅞ SIZE.

318 VIOLIN ¾ SIZE.

319 VIOLIN ½ SIZE.

320 VIOLIN ¼ SIZE.

321 VIOLIN ⅛ SIZE.

322 VIOLIN $\frac{1}{16}$ SIZE.

323 VIOLIN $\frac{1}{32}$ SIZE.

324 VIOLIN $\frac{1}{64}$ SIZE.

325 STRINGS. American.

326 STRINGS. Italian.

327 STRINGS. German.

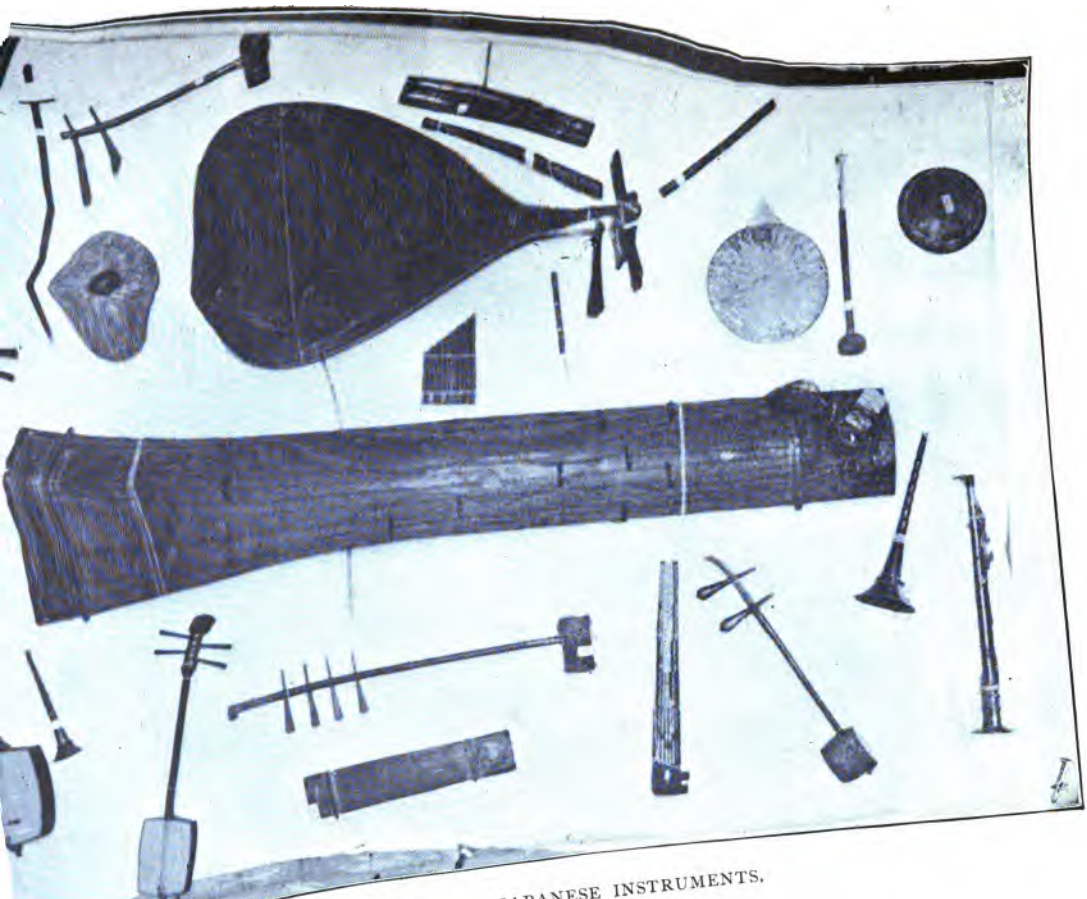
328 STRINGS. French.

329 STRINGS. Silk

330 STRINGS.

333 WOUND STRINGS. Violin.
334 WOUND STRINGS. Viola.
335 WOUND STRINGS. Cello.
336 WOUND STRINGS. Bass.
337 WOUND STRINGS. Harp.
338 WOUND STRINGS. Guitar.
339 WOUND STRINGS. Mandolin.
340 BRIDGE. Violin.
341 BRIDGE. Viola.
342 BRIDGE. Cello.
343 BRIDGE. Bass.
344 CHIN-REST. American.
345 CHIN-REST. English.
346 CHIN-REST. German.
347 RESIN. Violin.
348 RESIN. Cello.
349 RESIN. Bass.
350 END PIN. Violin.
351 END PIN. Cello.
352 END PIN. Bass.
353 PEGS. Violin.
354 PEGS. Viola.
355 PEGS. Cello.
356 PATENT PEGS.
357 MACHINE. Violin.
358 MACHINE. Cello.
[illegible] MACHINE. Bass.

364 MUTE. Bass.
365 TAIL-PIECE. Violin.
366 TAIL-PIECE. Viola.
367 TAIL-PIECE. Cello.
368 TAIL-PIECE. Bass.
369 TAIL-PIECE GUT. Violin.
370 TAIL-PIECE GUT. Cello.
371 TAIL-PIECE GUT. Bass.
372 FINGER-BOARD. Violin.
373 FINGER-BOARD. Viola.
374 FINGER-BOARD. Cello.
375 FINGER-BOARD. Bass.
376 NUTS. Violin.
377 NUTS. Viola.
378 NUTS. Cello.
379 NUTS. Bass.
380 SADDLE. Violin.
381 SADDLE. Viola.
382 SADDLE. Cello.
383 SADDLE. Bass.
384 NECK. Violin.
385 NECK. Viola.
386 NECK. Cello.
387 NECK. Bass.
388 WOOD FOR MAKING NECKS.
389 VIOLIN TOP. Wood.
390 VIOLIN TOP. Finished.
391 VIOLIN BACK. W '.
392 VIOLIN BACK. Fi ed.
393 VIOLIN RIBS. Fir 1.
394 VIOLIN RIBS. F



JAPANESE INSTRUMENTS.

395 VIOLIN PURFLING.

396 VIOLIN PURFLING. Bent.

397 VIOLIN SOUND POST.

398 VIOLIN BASS BAR. Shaped.

399 VIOLIN LININGS.

400 VIOLIN LININGS. Bent.

401 "TEMPLI CARMINA. SONGS OF THE TEMPLE, OR BRIDGEWATER COLLECTION OF SACRED MUSIC." Boston, 1821.

402 HYMN BOOK. Dedham. 1807.

403 VIOL D'AMOUR. Probably Austrian.

404 YUEH-CH'IN. Moon guitar. China. See No. 8.

405 SIAMISEN. Japan. See No. 6.

406 FIDDLE. China.

407 BOW to No. 406.

408 CYLINDER PIANO. England. Early type.

409 "RIMBAULT'S PIANOFORTE." Containing many original compositions for the harpsichord and spinet, some of them dating back to 1550.

410 "MAGGINI, HIS LIFE AND WORK."

411 "THE TUSCAN STRADIVARI."

412 "THE SALABUL STRADIVARI."

413 "HUNTEN'S PIANO SCHOOL." Sheet form. Published by George Dunn & Co., Richmond, Va. 1863. Part I.

414 "THE TRAVELLERS; OR, MUSIC'S FASCINATION." A dramatic opera in five acts. Written by Mr. Cherry. Music by D - Corri. Also eighteen songs.

415 FRAME OF A SNARE DRUM that is said to have been in [illegible] 4th of July, 1778, when a com-

Pittston Fort. It was presented to Charles M. Williams, of Plainsville, by Blanchard Chapman, a great-grandson of Capt. Jeremiah Blanchard who commanded the Pittston Fort.

416 REED ORGAN. Made by Leonard L. Martin in 1851. Black walnut case. Keys of wood with glass tops, underneath which is white paper embellished with flowers painted in water colors. This instrument is claimed to be the original organ embodying the principle of "inflowing streams of air on the reeds." The arrangement of weights that adjust pedals is very odd.

417 VIOL DE GAMBA. Germany. Six-stringed, with oblong rosette under finger-board. A knee violin as distinguished from Viola de Braccio, or the viola to be played on the arm is an obsolete stringed instrument played with a bow, and held between the knees; a predecessor of the violoncello. The finger-board was originally provided with frets that were afterwards discontinued; it was mounted with six catgut strings, which were ultimately increased to seven, the three lowest covered with wire. It was for years the most popular of bowed instruments, especially in England (which by some is believed to be its original home).

418 VIOL D'AMOUR. Bohemian. Fourteen-stringed. Carved lion's head, flaming sword holes.

419 ENGLISH KEY TRUMPET. Copper, with nine brass keys.

420 PHOTOGRAPH OF WAGNER, HIS WIFE COSIMA, AND FRANZ LISZT.

421 PHOTOGRAPH OF BEETHOVEN, PLAYING.

422 "ALEXANDER'S FEAST; OR, THE POWER OF MUSIC." An ode written in honor of St. Cecilia by Mr. Dryden. Set to music by Mr. Handel, etc. Also "ACIS AND GALATEA — A MASK." Set to music by Mr. Handel. Published by A. Randall, London. 1774.

448 MANDOLIN PICK.

449 MANDOLIN PATENT-HEAD.

450 MANDOLIN TAIL-PIECES.

451 MANDOLIN SLEEVE PROTECTOR.

452 HOWE-ORME TENOR MANDOLIN.

453 HOWE-ORME CELLO MANDOLA.

454 HARP GUITAR.

455 DALMATIA LYRE. This is the origin of the hurdy-gurdy.

456 GUITAR. Moorish. The guitar was introduced into Spain by the Moors.

457 HURDY-GURDY. The hurdy-gurdy was the troubador's fiddle in the thirteenth century. Sometimes it is called "rota," from its wheel. Four to six turning pegs at the head bear as many strings of gut or wire, which are carried direct to the tail-piece and tuned in unison, and stopped by an apparatus of keys with tangents directed with fingers of the left hand. The wheel takes the place of a bow and is resined.

458 GUITAR. Azores, or Western Islands. This is peculiarly strung, part being double strung in unison, the lowest being triple and an octave lower.

459 BANDURRIA. Half guitar. Has twelve strings tuned in pairs, the higher of gut, the lower of silk overspun with wire. The Bandurria is the national instrument of Spain.

460 GUITAR.

461 HOWE-ORME GUITAR.

462 GUITAR CASE.

463 GUITAR CAPO D' ASTRO.

464 BANJO. Africa. The body is a small pine box. The wooden neck passes through the box, to which the five fiber strings of

466 VIOLIN BLOCKS.

467 VIOLIN VARNISH. Various colors on wood.

468 VIOLIN VARNISH BRUSH.

VIOLIN MAKER'S TOOLS.

469 POST SETTER.

470 CALIPERS. Two styles.

471 PURFLING TOOL and AWL.

472 REAMER.

473 PEG-SHAPER.

474 PLANE. Large.

475 PLANE. Small.

476 SCRAPERS. Six pieces.

477 HOLE PUNCHERS. Two pieces.

478 BENDING IRONS. Four pieces.

479 STRADIVARIUS MODEL. Outside form.

480 STRADIVARIUS MODEL. Inside form.

481 STRADIVARIUS MODEL. Zinc patterns.

482 LINING CLAMPS or SNIPS.

483 HAND SCREWS. Three sizes.

484 FORM CLAMPS FOR VIOLIN.

485 SCREW CLAMPS. Five sizes.

486 BASS BAR SETTER.

487 BASS BAR CLAMPS. Six pieces.

488 STEEL GRADUATING SCALE.

489 KNIVES. Three styles.

490 GOUGE.

491 BANJO.

492 American. Modern type.

495 VIOLA RITTER, or ALTO VIOLA. The largest of all stringed instruments played on the arm.

496 VIOLIN. Clariot style.

501 SERPENT. The serpent at the present day is a rare instrument. It is a conical tube, made of two pieces of wood hollowed out, shaped in a serpentine manner, glued together, and covered with leather. It has a mouth-tube bent towards the performer, and a cupped mouthpiece. The tube was originally pierced with six holes, surrounded by ivory, the first three being covered by three fingers of the right hand, and the second three by those of the left hand. After the introduction of the Kent bugle, the serpent had keys applied to it. The body of the instrument was sometimes made of copper instead of wood, also being covered with leather. Until forty or fifty years ago a serpent was used in the band of the Life Guards, London. The serpent is said to have been discovered by a French priest, Edme Guillaume, of Auxerre, in 1590. It is probably an instrument of extreme antiquity. If the trombone, as discovered in Pompeii, was used by the Romans, it is reasonable to conclude that musical instruments made of serpentine shape were not unknown to the Egyptians. Like all wind instruments not pitched in C, the serpent required music to be transposed for it. Being manufactured in B^b, it was written for, like the ophecleide in B^b, a tone above its real sound. The serpent remained in its primitive form for nearly two centuries, after which an attempt was made to improve it by adding keys. From the time of its origin it had served principally as an accompaniment to the liturgical chanting, but towards the middle of the eighteenth century it

serpent by adding several keys and modifying the bore. Mendelssohn and Wagner probably are the last composers to demand the serpent in their scores.

502 BASS HORN. The bass horn is a rare instrument. It was the first bass instrument made of brass; invented in 1790 by M. Régibo, and followed the wooden serpent, having three finger-holes for each hand, with several extra keys. The instrument in this collection was used in the first brass band in America, organized in Boston, in 1835. Played by James Hill.

503 "TETER" or elbow melodeon. Reed. Flat keys. Made by B. D. Bartlett, Concord, N. H., 1838.

504 "TETER" or elbow melodeon. Reed. Round keys. Made by Abram Prescott, Concord, N. H., about 1836.

505 OPHICLEIDE. Soprano in B♭. The ophicleide is the first complete instrument with ten to twelve keys, and was invented in 1817 by Halary, a professor of music and instrument-maker at Paris, as an improvement on the bass horn and serpent. Frichot, a French musician residing in London, claimed to be the inventor, and called his instrument "basse trompette," but the credit of having evolved the ophicleide is given to Halary. It is interesting to read that the maker of the first ophicleide in London was J. Astor. Still another kind of ophicleide is the double bass or monster instrument in F and E♭, being a fifth below the bass ophicleide, or an octave below the alto. One was made by E. G. Wright, of Boston, for Thomas Davis, of Concord, N. H., it being the only one made in America. It has been lost track of. A monster ophicleide was made abroad for the Birmingham Festival in 1834. The ophicleid[illegible] the bass of the keyed bugle, and has a keying

508 OPHICLEIDE. Tenor in C.

509 OPHICLEIDE. Bass in B♭. First ophicleide made in America by Edward Torrins, of New York, for Dr. De Land, of North Brookfield, Mass., and used in the Boston Brass Band in 1835.

510 OPHICLEIDE. Baritone in B♭. Used in Boston Brass Band, 1835.

511 OPHICLEIDE. Bass in B♭. Used in Boston Brass Band, 1835.

512 OPHICLEIDE. 2d tenor in B♭.

513 OPHICLEIDE. 1st tenor in B♭.

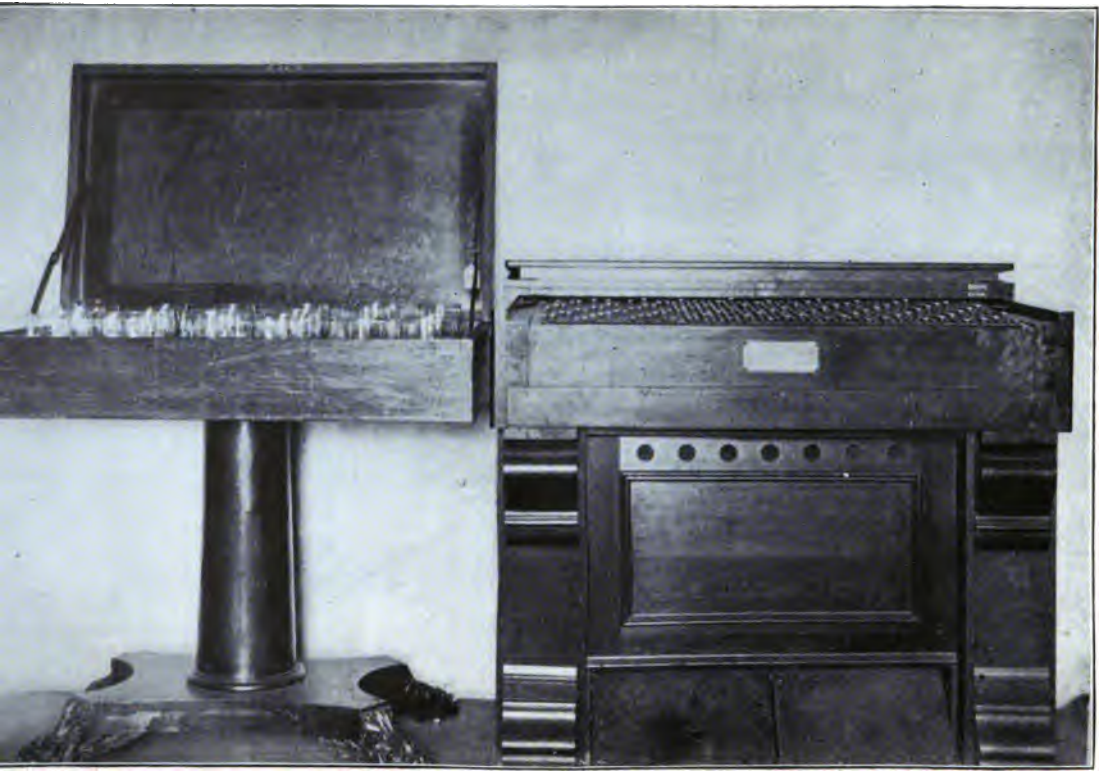
514 KEYED BUGLE. Smallest copper in A♭. The smallest copper bugle made by Percival, of St. James Street, London. The keyed bugle was invented by Joseph Halliday, bandmaster of Cavan Militia in 1810, was used considerably upon the continent by 1815. It had five keys, and was called the Kent horn in compliment to Field-Marshal, the Duke of Kent. The Kent horn, or bugle, was used to a great extent as a coach horn. Keyed chromatic instruments became popular rapidly, and greatly changed military music and brass bands. The principle of the keys was adopted for bass instruments as well. These early bugles were of copper, but the metal was so soft that finally it was discarded for brass, as the instruments were thicker and heavier than practicable. Keyed bugles were produced in A♭, F, E♭, D, C, and B♭.

515 KEYED BUGLE. Copper in E♭.

516 KEYED BUGLE. Brass in C.

517 KEYED BUGLE. Copper in B♭. Made by Graves & Co., Winchester, N. H. Used in Boston Brass Band, 1835.

518 FRENCH HORN. Piston valve. Old style indicated by dots ∴. Various materials have been used at different times



NO. 244. HARMONICON, OR CASE OF MUSICAL GLASSES.

NO. 1121. ENHARMONIC ORGAN.

semicircle is found at an early date as well. Horns were used in the hunt, and by signals announced its progress. Simple tunes were also within its compass, and it was early adopted as an orchestral instrument (1712) in Vienna. To complete the chromatic scale valves were added by degrees, until it was found three were necessary. Crooks form the upper third of the instrument. These may be changed at will and save the performer the necessity of transposing his score. The score of a horn written in C may by a change in the crook be played in E♭, F, or E by using the crook for either one of those keys. In a French horn without valves, the insertion of the hand in the bell will produce gradations of tone. At first but a single piston was applied (1806), but later a second was added. In this collection will be found almost every style of action and valve ever made.

519 FRENCH HORN. Double piston valve.

520 FRENCH HORN. Two compensating piston valves.

521 FRENCH HORN. Rotary valve. Brass crank action

522 FRENCH HORN. Old style. No valves.

523 FRENCH HORN. Rotary valve. Italian crank spring action.

524 FRENCH HORN. Two valve piston action.

525 FRENCH HORN. Small size. Without valves.

526 SLIDE TROMBONE. Soprano in E♭. Can be changed to B♭, also to C. It is difficult to say where or at what epoch this instrument was invented. Formerly, it was known as the sackbut; its modern designation — great trumpet — comes from the Italian. In a manuscript of the ninth century, preserved at Boulogne, there is a drawing of an instrument which bears a great resemblance to a trombone deprived of its bell. Early in the sixteenth century it was almost the same as that employed in our day. By that time the trom-

ers, and under Elizabeth, in 1587, there were six. English instrumentalists then enjoyed a certain reputation and were sought for by foreign courts; thus in 1604 Charles III. of Lorraine sought to recruit his sackbut players from English bands. Changes in the trombone have been made occasionally, but for the most part with only trifling success. The innovation that has the most vogue dates from the end of the eighteenth century; it consisted in bending the bell in a half circle above the head of the player, which produced a very bizarre effect; it also gave rise to very serious inconveniences: by destroying the regularity of the proportions of the bell it affected the quality of tone and intonation of the instrument. For a long time the curved bell with its serpent's mask was maintained in military music. The one in this collection represents a dragon's-head, with open mouth showing the teeth, also a red tongue which vibrates when the instrument is played upon. Formerly slide trombones were used in different keys, viz.: Soprano $E^{\flat}$, $B^{\flat}$, alto $E^{\flat}$, tenor C and $B^{\flat}$, bass $B^{\flat}$ and B.B. Most of these old slides had handles for extending to the lower notes. In this collection the soprano slide trombone in $E^{\flat}$ can be changed to $B^{\flat}$.

The introduction of pistons was made in 1818. Of the early style of piston trombones there is one in this collection showing three pistons, of which two are placed close together, the third being about ten inches from the first two.

527 SLIDE TROMBONE. Alto in $E^{\flat}$. Made by D. C. Hall & Co., Boston.

528 SLIDE TROMBONE. Bass in $B^{\flat}$. Extension handle. (Old style.)

532 SLIDE TROMBONE. 1st tenor in B♭. Extension handle. (Old style.)

533 SLIDE TROMBONE. 2d tenor in B♭ Extension handle. (Old style.)

534 SLIDE TROMBONE. Dragon's-head. Baritone in B♭.

535 SLIDE TROMBONE. Bell over shoulder in B♭. 1835.

536 SLIDE TROMBONE. Bell over shoulder in F. 1833. Used by Mr. Rapelyea in the first brass band formed in New Britain, Conn. 1842.

537 SLIDE TROMBONE. Tenor in G. Fancy turn in bell. Extension handle.

538 LOUIS SCHREIBER MODEL. Cornet in E♭. This unique shape and style of band instrument has never been equalled in model and artistic beauty. Mr. Schreiber, of New York, was the inventor, and in 1858 a company with a capital of $150,000 was formed to manufacture this special style of instrument. Only a few sets were completed, as owing to delays, the great expense incident to the introduction of the instruments and in making the models, drawings, etc., the capital of the company was exhausted, and manufacturing operations were suspended. These instruments were sold in sets of seven, the price being $1,000. The rotary style of action, with several important attachments and specially improved water keys, was used. This set is the only complete one known. It was formerly used by the Seventh Regiment (N. Y.) Band.

539 SCHREIBER MODEL. Cornet in B♭.

540 SCHREIBER MODEL. Alto in E♭.

541 SCHREIBER MODEL. 1st tenor in B♭.

542 SCHREIBER MODEL. 2d tenor in B♭.

543 SCHREIBER MODEL. Baritone in B♭.

546 BELL OVER SHOULDER. Three pump valves. Dodworth patent of 1838. B♭ cornet. This style of instrument (first made in the pump valve, and later in the rotary style of action) is of American invention, the Dodworth family of New York being the inventors in 1838. The great advantage claimed for this style of instrument over the bell-front and upright bell is that the bell extending over the shoulder throws the music back where all in the rear could hear it, even to the last line or company marching in the regiment. Although now out of date for that purpose, these instruments have no equal, and are now being recommended for street parades. During the Civil War several of these instruments were in use.

The bass tubas were very long, many being five feet and over, and consequently were not convenient for orchestra or concert playing as were the bell up and bell front.

In this collection will be found the silver cornet in the unusual key of A, made by I. Lathrop Allen, of Boston, in 1845 for Harvey Dodworth, and used by him for over forty years while leader of the Dodworth Band of New York, and which he played in the Central Park concerts and at ten inaugurations of the Presidents. This instrument is rotary action, with five valves, and is the only one known to have been made.

547 BELL OVER SHOULDER. Three pump valves. French make. B♭ cornet. About 1845.

548 BELL OVER SHOULDER. Three compensating valves. Made in Paris. Tenor B♭ with shank connection so it can be used with bell upright.

549 BELL OVER SHOULDER. Three pump valves. Dodworth patent. E♭ bass tuba.

550 BELL OVER SHOULDER. Three pump valves. Made in Paris. E♭ alto.

552 BELL OVER SHOULDER. Three piston valves. Dodworth patent. E♭ cornet.

DOUBLE PISTON VALVE INSTRUMENTS.

553 F TRUMPET. Double slide valves, transverse spring action. Austrian. 1820.

554 E♭ ALTO. Bell front, transverse spring action, double slide valve. Vienna. 1820.

555 G TRUMPET. Double slide valves, reversed action. Very old, rare style; no others to be found. Old style double piston, changed by crooks into keys of C, G, E, F, and A.

556 F KEY TRUMPET. Transverse spring action, three double slide piston valves. Changed by crooks to keys of E, G, A, and C.

557 B♭ FUGAL HORN. Transverse spring action, double piston valves. Italian.

558 B♭ CORNET. Transverse action, double piston slide valves. Germany.

559 E♭. Bell front, double piston, baritone transverse slide action. Vienna. 1820.

560 E♭ ALTO. Three double slide valves, compensating pistons. Made by Graves & Co., Winchester, N. H. 1830.

561 B♭ BARITONE. Can be changed to B♭ tenor. Played with *left hand*. Three double piston slide valves, compensating action. Copper. Made by Allen & Co., Norwalk, Conn. 1835.

562 B♭ CORNET. Circular shape. Three rotary valves, transverse spring action. Austrian Cavalry.

563 C BARITONE BASS. Circular shape. Three rotary valves, transverse spring action. Austrian Cavalry.

563a B♭ BASS. Four valves, transverse rotary action. Austrian.

565 F TROMBONE. Three valve compensating action. First valve made in France.

566 B♭ TENOR TROMBONE. Three valve piston box valve. B. F. Quimby patent. 1872.

567 B♭ TENOR TROMBONE Side action, rotary valve.

568 B♭ BARITONE TROMBONE. Three compensating valves.

569 E♭ ALTO TROMBONE. Three rotary valves. Side action. Centennial model. German silver.

570 E♭ ALTO TROMBONE. Three compensating rotary valves. Italian.

571 E♭ CORNET SAXHORN. Three pump valves. Upright bell. The first pump valve instruments were made by Charles Joseph Sax, who commenced improving brass instruments in 1822, making complete sets for full band, of seven different sizes. First, very high soprano in C; second, soprano in F, E♭, and E; third, contralto in C and B♭; fourth, tenor in F and E♭; fifth, baritone in C and B♭; sixth, the euphonium in C and B♭ has four and five valves; seventh, bass saxhorn or bombardon in F and E♭, four and five valves. Also B.B♭ or contra bass, and later the helicon or bombardon. The euphonium is a baritone saxhorn of a large caliber, usually three valves, sometimes four or five. Its tone is rich like the violoncello. In 1824 John Shaw, an English farmer, took out a patent for valve cornets. Fourteen years later, 1838, he registered patent for rotary valves.

Adolph Sax, son of Charles Joseph Sax, invented the saxophone in 1842.

572 B♭ CORNET SAXHORN. Three pump valves. Upright bell.

573 E♭ ALTO SAXHORN. Three pump valves. Upright bell.

574 B♭ TENOR SAXHORN. Three pump valves. Upright bell.

575 B♭ BARITONE SAXHORN. Three pump valves. Upright bell.

577 B♭ BASS SAXHORN. Three pump valves. Upright bell.

578 E♭ BASS SAXHORN. Three pump valves. Upright bell.

579 B.B SAXHORN. Four pump valves. Upright bell. Euphonium.

580 B♭ GERMAN SILVER CORNET. Three rotary valves, bell extending back over shoulder. Dodworth pattern. 1838.

581 B♭ GERMAN SILVER BARITONE. Three rotary valves. Bell extending back over shoulder. Dodworth pattern. 1838.

582 B♭ GERMAN SILVER BASS TUBA. Three rotary valves. Bell extending back over shoulder. Dodworth pattern. 1838.

583 E♭ GERMAN SILVER BASS TUBA. Three rotary valves. Bell extending back over shoulder. Dodworth pattern. 1838.

584 GERMAN SILVER BASS TUBA. Small. Key of C. Three rotary valves. Bell extending back over shoulder. Dodworth pattern. 1838.

585 GERMAN SILVER BASS. Key of D. Three rotary valves. Bell over shoulder. Dodworth pattern. 1838.

586 E♭ GERMAN SILVER ALTO. Three rotary valves. Bell over shoulder. Dodworth pattern. 1838.

587 E♭ GERMAN SILVER CORNET. Three rotary valves. Bell over shoulder. Dodworth pattern. 1838.

588 SERAPHINE. Old style.

BASS DRUMS.

589 THE OLD BOSTON BRASS BASS DRUM. Of the first brass band formed in America, Edward Kendall, leader. It has the Boston coat-of-arms emblazoned on the shell; also the names of the members of the band each side of it, with 1835 below. In 1852 Mr. D. C. Hall assumed leadership. The old bass drum was in use over sixty-five years. No other

591 OLD STYLE LONG BASS DRUM. Used in the United States Cavalry at Fort Warren, in Boston Harbor, 1837, and at Fort McHenry, Md.; also in the Mexican War.

592 OLD STYLE BASS DRUM. Used in New Hampshire State Militia at old-time trainings and musters at Concord, N. H. Has the spread eagle in brass.

593 OLD STYLE LONG TENOR DRUM. United States Regular Infantry. Has twenty stars in brass.

594 CYMBAL. Boston Brass Band.

CIRCULAR OR HELICON INSTRUMENTS.

595 B♭ TENOR. Circular or helicon. Three rotary valves. Circular or helicon instruments have been made and used in Europe for many years. They were first introduced in America by Dodworth, of New York, for his band, about 1848 or 1850. The first one made in this country was by Henry G. Lehnert, of Philadelphia, in 1867. Unlike those of the European model, which rest on the left shoulder, the American model was constructed to rest on the right, gaining thereby more room for the player, and enabling him to hold and play them with one hand. All but three of this set were used by the United States Cavalry during the latter part of the Civil War and at the surrender of General Lee.

596 E♭ 1ST ALTO. Circular or helicon. Three rotary valves.

597 B♭ BARITONE. Circular or helicon. Three rotary valves.

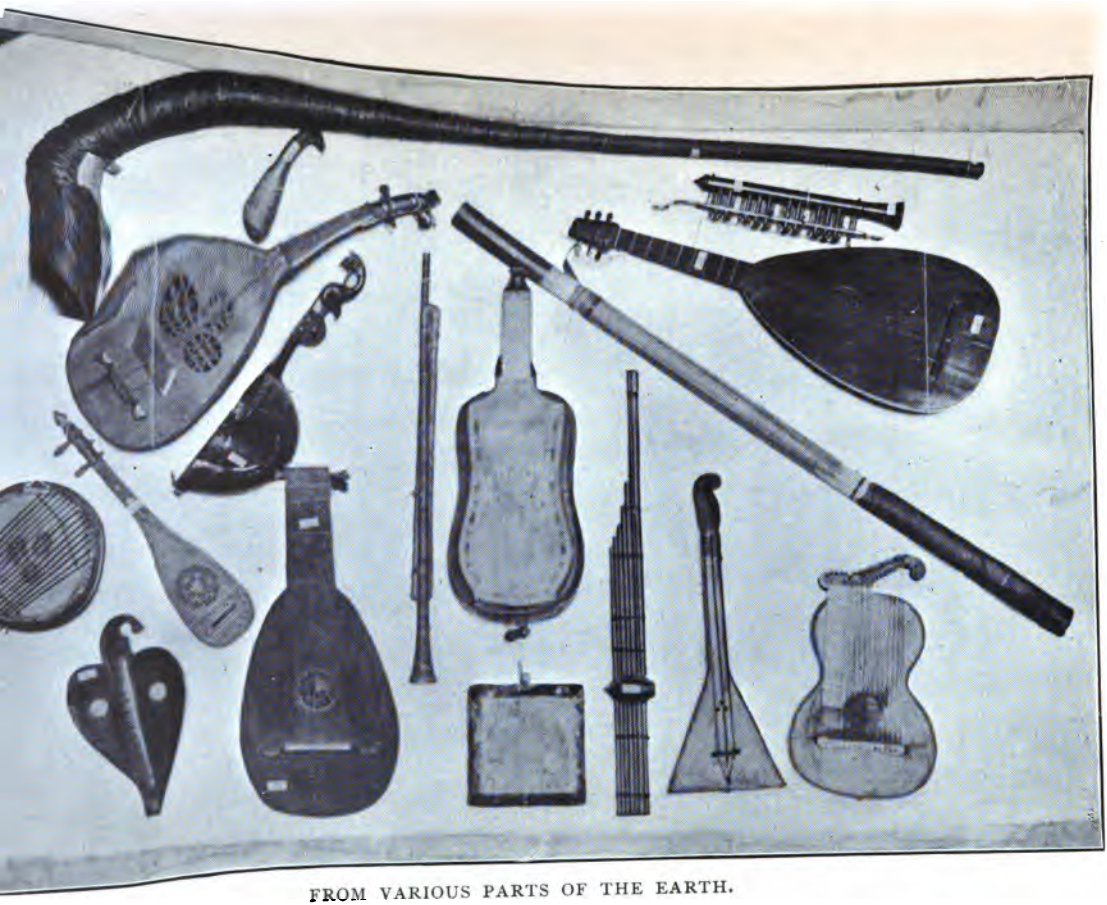
598 E♭ ALTO. Circular or helicon. Three rotary valves.

599 B♭ BASS. Circular or helicon. Three rotary valves.

600 B♭ CORNET. Circular or helicon. Three rotary valves.

601 E♭ 2D ALTO. Circular or helicon. Three rotary valves.

602 E♭ CORNET. Circular or helicon. Three rotary valves. Very rare.



FROM VARIOUS PARTS OF THE EARTH.

verse action. Austria. Played in the Austrian Band at the Boston Peace Jubilee in 1872.

605 E♭ BASS. Circular or helicon. Three rotary valves. Top action. Made by Seltmann, of Philadelphia.

606 B♭ BASS. Circular or helicon. Three rotary valves. Side action.

607 B♭ CORNET. Circular or helicon shape. Three rotary valves. Used in bands in 1855 that played helicon-shaped instruments.

608 B♭ BARITONE. Circular or helicon. Three rotary valves. Top action.

609 B♭ CORNET. Circular or helicon shape. Three rotary valves. Inside stop action.

ANTIQUE INSTRUMENTS.

610 B♭ BASS BOMBARDON. Four-pump piston valves.

611 E♭ BASS TUBA. German silver. Four rotary valves. Side action. Made in Germany.

612 E♭ BASS TUBA. Five rotary valves. Transverse action. A very rare type of instrument that can be changed from E♭ to D and F by moving a dial. This is the only style of bass tuba that can be changed into different keys without the addition of extra crooks. Made by C. Klein, Nainz, Germany.

613 E♭ BASS TUBA. German silver. Three rotary valves. Side action. Made by H. G. Lehnert, Philadelphia.

614 E♭ BASS TUBA. Three rotary valves. Side action. Centennial model, with bead passing between the two tubings. Invented by Henry G. Lehnert of Philadelphia. The name "Centennial" was given it in honor of the Centennial Exposition in Philadelphia in 1876.

ECHO INSTRUMENTS.

616 B♭ TENOR. Made of copper with echo attachment. Four valves. Rotary action. Manufactured by D. C. Hall, leader of Hall's Boston Brass Band. 1856. The only complete set known of Echo Instruments in existence was used in Hall's Boston Brass Band in their concert tours. The audience generally supposed when the echo attachment was played that there was an extra band behind the stage. These instruments with the exception of the trombone, which has three valves, are made with four valves, rotary action.

617 B♭ BARITONE TROMBONE. Made of copper with echo attachment. Three valves. Rotary action. D. C. Hall's design.

618 B♭ BASS EUPHONIUM. Made of copper with echo attachment. Four valves. Rotary action. D. C. Hall's design.

619 B♭ BARITONE EUPHONIUM. Made of copper with echo attachment. Four valves. Rotary action. D. C. Hall's design.

620 E♭ ALTO. Made of copper with echo attachment. Four valves. Rotary action. D. C. Hall's design.

621 F BALLAD or FRENCH HORN. German silver with copper echo attachment. Can be changed to G and C. Four valves. Rotary action. D. C. Hall's design.

622 C TRUMPET. Brass with copper echo attachment. Four valves. Rotary action. D. C. Hall's design.

WOOD WIND INSTRUMENTS.

623 PICCOLO. Four square keys. Key of D.

624 JAPANESE.

625 DOUBLE FLAGEOLET. The double flageolet first came

626*a* Extra tube for hautboy to change key.

627 CLARINET. German make. Eight keys.

628 CLARINET. Made by Singer Carlsruhe. Twelve keys, two being roller keys.

629 CLARINET. Made by Euler Frankfurt. Twelve round keys.

630 CLARINET. Made by Euler Frankfurt. Twelve round keys.

631 BASSOON. Nine keys. Made by F. Ott. Wurzburg.

632 ALPINE HORN.

633 B♭ CLARINET. German.

634 CLARINET. Eleven square keys. Made by Key, London.

635 SCOTCH BAGPIPE.

636 PRECENTOR FOR BAGPIPE.

Numbers 637 to 643*b* are examples of first style of rotary valves.

637 B♭ CORNET. Three valve. Rotary action. Upright bell.

638 B♭ BARITONE. Rotary valve. Side action. Upright bell.

639 E♭ BASS. Rotary valve. Top action. Upright bell.

640 BASS TUBA. Key of C. Rotary valve. Top action. Upright bell.

641 B♭ BASS. Rotary valve. Top action. Upright bell.

642 E♭ ALTO. Rotary valve. Left side action. Upright bell.

643 E♭ CORNET. Rotary valve. Top action. Upright bell.

643*a* B♭ BARITONE. Side crank action. Inside stop.

643*b* B♭ TENOR. Side crank action. Inside stop.

Numbers 644 to 666 contain nearly all the different styles of action from keyed bugle to the present date in the cornet family.

644 E♭ KEYED BUGLE. C. Nine keys.

648 CAVALRY BUGLE. Copper. Key of B♭.

649 E♭ CORNET. Transverse side action.

650 TRUMPET. Key of C. Rotary valve. German silver. Can be changed into keys of G, A, B♭, and E with separate crooks.

651 B♭ CORNET. Piston box valve. Made by Hall and Quimby. Very rare brass instrument.

652 B♭ CORNET. Bell over shoulder. Pump valve.

653 E♭ CORNET. Pump piston valve. Bell front.

654 E♭ CIRCULAR CORNET. Five valves. German silver. Made by Isaac Fiske, Worcester, Mass.

655 B♭ CORNET or CORNOPEAN. First size made. Ivory push buttons. Square valve rod. Made by Valentine Metzler, London.

656 TRUMPET. Key of A. Transverse rotary valve.

657 B♭ BASS. Old style pump valve. Germany.

658 E♭ ALTO. Old style. Bell front. First style pump valve.

659 B♭ CORNET. Rotary valve. Transverse side action.

660 E♭ ALTO. Bell front. Three pump valves. First style made in Hanover, Germany.

661 E♭ ALTO. Bell front. Three rotary valves.

662 BARITONE. Key of A. Transverse rotary valve action. Austria.

663 SLIDE TRUMPET. Key of F. London.

664 E♭ CORNET. Rotary valve. Side action.

665 FUGAL HORN. Key of C. Transverse rotary valve. Side action. Lippold Haming, Germany.

often played the popular "Wood Up Quickstep" on this instrument.

667 E♭ KEYED BUGLE. Gold-plated. Used by D. C. Hall, of Boston, for nearly fifty years. An exact copy of the solid gold bugle presented to Mr. Hall by the Lowell, Mass., Brass Band. Twelve keys and one rotary valve to extend the tone.

668 E♭ KEYED BUGLE. Silver. Eleven keys. Used by Rudolph Hall, second leader of Hall's Brass Band and brother of D. C. Hall. Made by E. G. Wright, of Boston, Mass.

669 A♭ CORNET. Silver. Harvey B. Dodworth. Bell over shoulder. He was leader of Dodworth's Brass Band, of New York, for nearly fifty years. This cornet was made for him by J. Lathrop Allen, of Boston, and was presented to him by the members of his band in 1845. It was used by him at the Central Park concerts for over twenty-five years, and at ten Presidential inaugurations; also on many other important occasions.

670 E♭ CORNET. Silver. Used by Patrick Sarsfield Gilmore, leader of bands in Salem, Boston, and New York. Three rotary valves.

671 E♭ CORNET. Silver. D. C. Hall. Bell over shoulder. Three rotary valves. Boston style of action.

672 E♭ CORNET. Silver. Three rotary valves, and five keys for upper notes. The one nearest to the bell for highest A♭, that with the next for A#; the second and third for B♭; the third and fourth for B#; the fourth and fifth for C. The above addition of five keys came into use in 1845. Keys are always numbered from the bell. This style of instrument with keys and valves is rarely found at the present day.

673 E♭ ALTO SARRUSOPHONE. Brass. Imported by J. Howard Foote for A. [illegible]

674 DULCIMER. Has three sets of strings.

676 PHOTOGRAPH OF EDWARD KENDALL.

677 PHOTOGRAPH OF DAVID C. HALL.

678 PHOTOGRAPH OF RUDOLPH HALL.

679 PHOTOGRAPH OF PROF. E. K. EATON.

680 PHOTOGRAPH OF HALL'S BRASS BAND.

681 MUSIC. Used by New Britain, Conn., Band, in 1842.

Numbers 500 to 681 loaned by Mr. D. S. Pillsbury. This is the most valuable collection of brass instruments in the world, comprising as it does almost every type of instrument in its class.

1001 SQUARE PIANO. Made by A. Babcock, Boston. The first piano brought to Providence, R. I.

1002 MUSIC. Arranged for the dulcimer.

1003 PAPER. Printed by Frederick Gleason, Boston, entitled "Jenny Lind." Printed in bronze in honor of the famous singer.

1004 PROGRAMME OF MADEMOISELLE JENNY LIND'S CONCERT. With the words of the airs in Italian, German, Swedish, and English. Given in Tremont Temple, Boston, 1850.

1005 SQUARE PIANO. Made by Wilkins & Newhall, 355 Washington Street, Boston, from Chickering & Co.'s establishment. No. 297. Frame of peculiar design.

1006 HARMONICA, OR MUSICAL GLASSES. Made about forty years ago by an ingenious mechanic of Boston, who hoped to make it a financial success, but failed, on account of the difficulty he encountered in attempting to apply a pedal or some device for stopping the vibration of the glasses.

pealed to the glory of God in this country." The organ was originally the property of Mr. Thomas Brattle, who imported it from London in 1713. Mr. Brattle was one of the founders of the old Brattle Street Church in Boston, first known popularly as the "Manifesto Church."

The parish records of St. John's Church, Portsmouth, its present home, say that the organ was bequeathed by Mr. Brattle to the Brattle Street Church, "given and devoted to the praise and glory of God in the said church, if they shall accept thereof, and within a year after my decease procure a sober person that can play skilfully thereon with a loud noise." His will provided that it should go to King's Chapel if not accepted according to the first provision. The non-compliance of the Brattle Street Church with these provisions would therefore seem to have been the gain of King's Chapel. After remaining unpacked in the tower for some eight months, it was used there until 1756. Then it was sold to St. Paul's Church in Newburyport, and was in constant use there for the next eighty years. It was purchased for St. John's Chapel in 1836 by Dr. Burroughs, and is still used.

1010 MS. OF "ROCK ME TO SLEEP, MOTHER." By Mrs. Elizabeth Akers. Written on paper made from imported bandanna handkerchiefs for the United States government during the administration of Andrew Jackson. The paper was rejected as being too heavy and rough.

1011 THIRTY SHEETS OF MUSIC. Each by a different publisher of "Rock me to Sleep, Mother." The list includes the following authors and publishers: —

Leslie, C. Dickson, Boston; Ernest Leslie, G. D. Russell &

New York; Rufino Sestini, A. Bertini & Co., London; J. Barnett, Joseph Williams, London; M. W. Balfe, Hutchings & Romer, London; Max Muller, F. A. North & Co., Philadelphia; Isaiah Ickes, S. Brainerd & Co., Cleveland; Jules Benedict, O. Ditson & Co., Boston; Mrs. W. K. Cutler, Balmer & Weber, St. Louis; N. Hyatt, Horace Waters, New York; W. H. Dennett, O. Ditson & Co., Boston; T. H. H., John Blockley, London; Ernest Leslie, G. D. Russell & Co., Boston; F. Mayer, H. Tolman & Co., Boston; F. H. Pease, S. Brainerd, Cleveland; Christy Minstrels, Thomas C. Lewis, London; John H. Hewitt, Lee & Walker, Philadelphia; arranged by M. Hobson for Christy Minstrels, Hopwood & Crewe, London; Frank Wood, O. Ditson, Boston; D. K. O'Donnell, T. Broome, London; D. K. O'Donnell, C. Sheard, London; Christy Minstrels, Howard & Co., London; Christy Minstrels arranged by J. Costello, Metzler & Co., London; Jules La-Forte, Manuscript copy.

1012 GRAND PIANO. Probably Germany. 1800.

1013 HIGH UPRIGHT PIANO. Made by Robert and William Nunns about 1830. It has brass candelabra at the sides, and a peculiar arrangement of pale, salmon-colored silk in the panel above the keyboard that has given it the name of the "Sunburst" piano.

1014 SQUARE PIANO. Made by "Adam Beyer, Londini, Fecit, 1795, Compton Street, Soho." In place of pedals the piano has three manuals, which are in an open compartment at the left of the keyboard and serve to intensify or deaden the sound or simulate the tones of a harp. It has five legs and a large shelf for music. Five octaves.

1015 LADIES' CABINET PIANO. England. About 1800. Designed for the use of ladies. Between the action and the

NO. 1036. SQUARE PIANO MADE BY BENJAMIN CREHORE, MILTON, MASS., THE FIRST PIANO MANUFACTURER IN AMERICA.

long, narrow tray for similar articles. These compartments can be removed when the piano is in use. There is a front panel that lets down, forming a writing ledge, while set in the face of the rest that supports the lid when raised is a mirror.

1016 HARP-SHAPED PIANO. Made in Vienna. Frame of mahogany, the actions and strings being concealed from view by a panel of cloth. An explanation of the strings shows the notation to be A, B, H, C, D, etc., a notation peculiar to Austria in the early epoch of piano manufacture. It has four pedals, a loud and soft, and harp and cymbal attachment, the simultaneous use of which produces strains in imitation of an orchestra.

1017 UPRIGHT PIANO. Made by Robert and William Nunns, makers for Du Boise and Stodart. This is one of the first upright pianos made in the United States. Robert and William Nunns' factory was at Setauket, L. I., and was one of the earliest establishments of the kind in this country. This type of piano is very rare.

Numbers 1012 to 1017 loaned by Rev. Dr. James H. Darlington.

1018 PORTRAIT OF TIMOTHY GILBERT, one of the earliest piano-makers in Boston.

1019 SQUARE PIANO. New Patent, "Astor & Norwood, No. 79 Cornhill, London." About 1780.

1020 SQUARE PIANO. Made by J. Chickering, 416 Washington Street, Boston. No. 1347. A very curious and rare type.

1021 MELODEON. Five octaves.

1022 SQUARE PIANO. Made by John Tallman, No. 15 Barclay Street, New York City. Six legs. Brass trimmings.

1023 SQUARE PIANO. Made by Mott, Mead & Co., Montreal,

prison. Its music was greatly enjoyed by his fellow-prisoners, and in camp after their release.

1026 PORTRAIT OF GEORGE LORD, of the firm of Lord & Cumston, Lord, Gilbert & Cumston, Lord & Taylor, and George Lord & Co., piano manufacturers, Boston. Born, Wiscasset, Me., May 26, 1807.

1027 PIPE ORGAN. Built in England, 1761, by John Snetzler. It was brought to this country before the Revolution and stored in a building in South Amboy until after the end of hostilities. The gilded pipes have been removed and a piece of silk is now used as a cover. The doors also have been removed and the keyboard has been changed from black and white to white and black. An interesting specimen.

1028 PHOTOGRAPH OF HALL'S BAND. Boston. About 1850.

1029 FLUTE. Boxwood. Made in England, 1800.

1030 FLUTE. Boxwood and ivory. Made by Clementi & Co., London. Used by Major-Gen. Appleton Howe, M. D., while at Harvard College, 1815.

1031 SQUARE PIANO. Made in England about 1780. The case is made of branches of trees in the rough, and inlaid.

1032 PIANO. By Kirkman, London. Owned and used by Tom Thumb.

1033 SQUARE PIANO. Made by Albrecht, Philadelphia, about 1789. Hand-made case. Soundboard of pine three inches thick.

1034 SQUARE PIANO. "Made by John Charters, Xenia, Ohio," probably of English make. This instrument has the wrest-pins bunched together in a wooden beam on the right of the

supposed to be used for its specific purposes without metal mouthpiece.

The commandment for its use is given in connection with the injunctions concerning the jubilee to be observed by Israel: "Thou shalt cause the trumpet (*i. e.*, the shofar) of the jubilee to sound on the tenth day of the seventh month . . . and ye shall hallow the fiftieth year, and proclaim liberty throughout the land unto all the inhabitants thereof." — Leviticus XXV. 9–10.

The shofar was used in ancient Israel for other purposes, also, as an "alarm" upon going to war, in days of gladness, on solemn days, on the beginning of the month, in connection with the bringing of sacrifices, etc., in each case as "a memorial before God." (See Deuteronomy X. 9–10.)

The shofar is still used by Jews on the New Year's day, one of whose names is "The Day of Memorial." It is to remind Israel of God, of his mercy, and his redemption of the penitent. The tones of the shofar are to suggest to Israel (according to Saadya the Gaon, a great Jewish teacher of the ninth century): (1) The Creation; (2) The Days of Penitence beginning with New Years and ending with the Day of Atonement; (3) The Revelation on Sinai; (4) The Prophetical Injunctions; (5) The Destruction of the Temple of Jerusalem; (6) The Sacrifice of Isaac; (7) Humility before God; (8) God's Judgment; (9) The Gathering and Redemption of Scattered Israel; (10) Resurrection.

These represent beliefs more or less outgrown of Jewish Orthodoxy. Liberal Jews still use the shofar on the religious New Year's day simply to remind themselves of the "covenant of righteousness to which Israel is consecrated."

1036 SQUARE PIANO — Made by Benjamin Crehore of Milton. piano manufacturer in this

1037 SQUARE PIANO. Made by Johannas Broodwood, Londini, Fecit, 1791. Patent, Great Pulteney Street, Golden Square.

1038 GRAND PIANO. Made by Muzio Clementi & Co., Cheapside, London.

1039 SPINET. Made by Samuel Blythe, Salem, Mass., 1786, for Mrs. Margaret Barton, and cost £18, one of the first instruments of this kind manufactured in this country.

Numbers 1036 to 1039 loaned by the Essex Institute, Salem, Mass.

1040 VIOLIN. This instrument came from Winchester, Va. At the time of General Banks' retreat it hung on a beam in a shed adjoining an old farmhouse in which some of the soldiers slept. It was bought by Robert S. White, and taken to South Weymouth, Mass. On the inside is a label bearing the name "Aug Glass, pupil to Stradivarius, 1740."

1041 BASS VIOL. By Benjamin Crehore, Milton, Mass., about 1788. One of the first viols made in this country.

1042 LITHOGRAPH. Representing P. T. Barnum introducing Ossian Dodge to Jenny Lind. Mr. Dodge paid a premium of $650 for the choice of first ticket to her concert in Boston.

1043 SQUARE PIANO. With circular keyboard. Made by Wilkins & Newhall, 355 Washington Street, Boston, Mass., about 1850.

1044 C. ORGAN. Made in England about 1792. It has two stops.

1045 MANDOLIN. Arabia. Antique.

1046 MANDOLIN. Spain. Antique.

1047 LYRE. France. Directoire pattern.

1048 HARPSICHORD. France. Louis XV. period.

1051 HARPSICHORD. Probably by Kirkman, London. About 1790.

1052 SPINET by Baker Harris, London. 1773.

1053 CLAVICHORD.

1054 THE FIRST PIANO made by Jonas Chickering, begun in 1822; completed and sold in 1823.

1055 BILL OF SALE of the first piano made by Jonas Chickering.

1056 SQUARE PIANOFORTE by Stewart & Chickering. 1823.

1057 UPRIGHT PIANOFORTE by Jonas Chickering. One of the first Chickering Uprights. 1830.

1058 GRAND PIANOFORTE by Chickering. One of the first Grands made with the full iron frame, first suggested by Alpheus Babcock, and improved and introduced by Jonas Chickering. The entire success of American pianos is owing primarily to the use of the iron frame.

1059 SQUARE PIANOFORTE by Babcock & Appleton.

1060 SQUARE PIANO by Louis Browne.

1061 EARLY SQUARE PIANOFORTE by Nagle, Paris.

1062 SQUARE PIANOFORTE by Chickering. 1832.

1063 SQUARE PIANOFORTE by Babcock for Jonas Chickering, about 1825.

1064 SQUARE PIANOFORTE by Stewart & Chickering.

1065 SQUARE PIANOFORTE by Chickering. 1873.

1066 SQUARE PIANOFORTE by Chickering. 1872.

1067 GRAND PIANOFORTE by Chickering, known as the 46B Scale. A famous Grand in its day. 1877.

1068 GRAND PIANOFORTE by Chickering. 1884.

1069 UPRIGHT PIANOFORTE by Chickering. 1887.

GUITAR PIANOFORTE by Chickering. 1856.

It was a pianoforte of this type that was used by Liszt, and is now preserved in his home at Weimar.

1073 CHICKERING & SONS' CATALOGUES, loaned by Messrs. Chickering & Sons and the Boston Public Library.

1074 UPRIGHT PIANOFORTE by Chickering. 1887.

1075 UPRIGHT PIANOFORTE by Chickering. 1883.

1076 GRAND PIANOFORTE by Chickering, known as the Cocked Hat, because of its peculiar shape. One of the smallest Grand Pianos made, and a great innovation in its day. 1856.

1077 UPRIGHT PIANOFORTE by Chickering. 1883.

1078 GRAND PIANOFORTE by Chickering. 1860.

1079 GRAND PIANOFORTE by Chickering. 1889.

1080 GRAND PIANOFORTE by Chickering. 1892.

1081 SQUARE PIANO. By John Osborne. Boston. It has six legs and two drawers for music.

1082 UPRIGHT PIANO. By "Owen, Slod & Co., 36 Red Lion Square, London, for James Palmer, Mount Pleasant, Liverpool."

1083 VIOLIN. By Jacob Stainer between 1635 and 1662.

1084 VIOLIN BOW. By Dodd, England. Probably 1800.

1085 VIOLIN. By Gaspard da Salo about 1600.

1086 VIOLIN BOW.

1087 VIOLIN. By Richard Duke Landor, 1768.

1088 VIOLIN BOW. By Vuillaume.

1089 VIOLIN. By I. J. White, Boston, 1844, from wood of the Lexington Street Church communion table and from the old Chauncy Street Church.

1090 VIOLIN BOW.

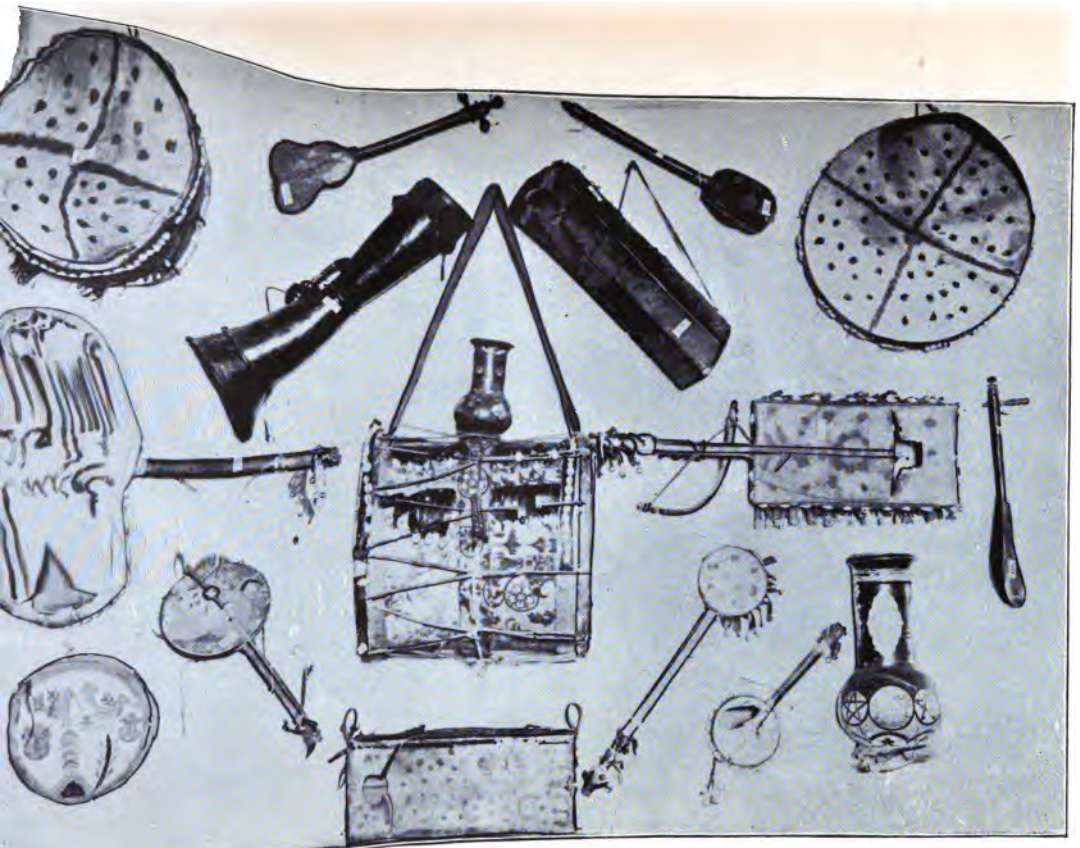
1091 GRAND SQUARE PIANO. By Henry Hawkey, New York,

1092 SQUARE PIANO. By Clementi & Co., London.
1093 PIANO STOOL. Old style.
1094 PIANO STOOL. Old style.
1095 KOTO. Japan.
1096 SAMISEN. Japan.
1097 SAMISEN. Snake-skin head and back. China.
1098 BIWA. Japan.
1099, 1100, 1101 MUSIC BOOKS. Japan.
1102 PHOTOGRAPH. Japan.
1103 BOOK. Illustrated. Japan.
1104 THIMBLES FOR PLAYING THE KOTO. Japan.
1105 PLECTRUM. Wood. For playing Samisen. Japan.
1106 "TETER." Melodeon.
1107 UPRIGHT PIANO. By Collard & Collard, London, about 1836.
1108 SQUARE PIANO. Made by A. Babcock for G. D. Mackay, Boston. Owned and used by Lowell Mason for fifty years, from 1820–70.
1109 HIGH UPRIGHT PIANO. By Clementi & Co., 26 Cheapside, London.
1110 BOW. China.
1111 BAJA. India.
1112 VIOLIN MUETETTE. Suisse.
1113 KOKIU. Japan.
1114 WANG JORK. Bamboo flute. China.
1115 WANG JORK. Flute. China.

1119 GEE-YEN, or RAVANASTRON and BOW. Origin of the violin. China.

1120 SQUARE PIANO. By Currier & Gilbert, 393 Washington Street, Boston. No. 91.

1121 ENHARMONIC ORGAN and KEYBOARD. Invented and constructed in 1867 by the late Mr. Joseph Alley, organ builder of Newburyport, Mass., who had previously constructed several large pipe enharmonic organs with the usual keyboard, pedals being employed for changing from one key to another. The instrument has been described in an article, "Joseph Alley's Enharmonic Organ," by Miss S. H. Hooker in *Music*, April, 1897, from which the following note is taken. "There are four sounds to each of the twelve tones given in the octave on tempered instruments. The photograph shows five keys, but the fifth is in sound the duplicate of that at the other end of the row, for convenience in modulating. The white key is the tonic of its own scale and the second, fourth, and fifth of three others. The long black key is in pitch a comma below the white one, and furnishes the true third, sixth, and seventh of three more scales. Of the short keys, one gives a dominant seventh and "perfect seventh," requiring a sound one comma and three-quarters below that of the white key, and the other gives the leading note of a minor scale, two commas below the white key. For example: The white key on which there is no dot is C. The long black key in the same row is the true third, sixth, and leading tones in the scales of A^b, E^b, and D^b major. One short key is for the dominant seventh of G major and the "perfect seventh" in D major. The other short key gives the leading note of C sharp minor scale. The dots on the white keys ascending diagonally by fifths toward the back of the keyboard indicate the number of sharps in the signatures of the scale



PECULIAR INSTRUMENTS FROM ARABIA.

of flats in their signatures. The keys are so made that they can be distinguished from each other by touch as well as by sight. They are so balanced that a touch on any part of their surface produces always the same effect, and the fingering is the same in all keys."

1122 SQUARE PIANO. By Clementi & Co., London.

1123 GRAND PIANO. By Chickering about 1859. Used by Thalberg.

1124 SQUARE PIANO. Made in France. Elaborate ornamentation.

1125 SQUARE PIANO. Made for Jenny Lind by Mr. Hallet during her first concert in Boston.

1126 MUSIC MANUSCRIPT OF JOHANN SEBASTIAN BACH.

1127 AUTOGRAPH LETTER OF MENDELSSOHN.

1128 AUTOGRAPH LETTER OF VON BULOW.

1129 AUTOGRAPH LETTER OF TSCHAIKOWSKY.

1130 AUTOGRAPH LETTER OF MASSENET.

1131 AUTOGRAPH LETTER OF BEETHOVEN. One of his published letters.

1132 AUTOGRAPH LETTER OF LISZT.

1133 PORTRAIT OF LISZT. At the age of twenty-four years.

1134 AUTOGRAPH LETTER OF RICHARD WAGNER.

1135 AUTOGRAPH LETTER OF PAGANINI.

1136 PORTRAIT OF LISZT. His last autograph and a lock of his hair cut the day he died.

1137 PAGE OF MANUSCRIPT MUSIC OF MENDELSSOHN.

1138 A SKETCH OF MENDELSSOHN.

1139 PICTURE OF JENNY LIND.

1140 PICTURE OF VICTOR CAPONE.

1142 PHOTOGRAPH OF THE INTERIOR OF COVENT GARDEN AND THE DRURY LANE THEATRES, LONDON.

Numbers 1139 to 1142 are loaned by Mr. Lawrence McCarty from collection in Boston Theatre lobby.

1143 BOOK OF OLD-TIME POPULAR SONGS. Containing the first American edition of the "Marseillaise Hymn," in French and English.

1144 "BEGINNERS' GUIDE AND INSTRUCTOR FOR THE VIOLIN, ETC." By John Friedheim. Boston.

1145 HARP ACTION. Made by Challiot. 1558.

1146 PORTRAIT OF VIEUXTEMPS.

1147 HARP. Owned by Thomas Moore. Made by Egan. Ireland. This instrument is also interesting from the fact that it is double action; a rare type of Irish harp. Mr. Dolph Levino discovered the relic in Ireland a few years ago.

1148 ALASKAN RATTLE. One of the many interesting forms of rattles found on the northwest coast of America. This specimen was part of the equipment of a medicine man of particularly high repute.

1149 AFRICAN WAR-RATTLE. This rattle (from the Sudan) in the form of an iron pod displays considerable skill in its construction, and is a good example of a distinct type in this class of instruments.

1150 WOODEN DRUM. Africa. Interesting from the fact that it is used in the Congo region for purposes of telegraphy. The natives are very skilful in its use and can transmit messages a long distance in a surprisingly short time.

1151 DRUM (TOM-TOM). Congo region, Africa.

Stearns, of Detroit, Michigan. It is cut out from a solid piece of palm wood, and in its structure, notably in the manner in which the head is fastened, displays great ingenuity. The instrument is carried from the shoulder by a heavy cord.

1153 KOTZSUZUMI. Japan. Tsuzumi is the name given to a type of drum whose chief characteristic is a body in the shape of a dumb-bell. The bell-shaped ends are hollow. The type is a very ancient one, even from the Oriental point of view.

1154 MRIDANG, or MATHALA. India. This drum is employed by musicians of southern India. The heads are tuned to the tonic and fourth or fifth according to the nature of the music. If the music is in Madhyamas' ruti the fourth is used, while the fifth is used for the Panchāmas' ruti.

1155 WAR-HORN. Africa. This instrument is illustrative of a type quite general on the west coast of Africa. The tusk has been made thinner in order to make the tone more sonorous.

1156 WAR-TRUMPETS. These are good examples of types quite distinct from No. 1155. They are often decorated with the jaws of enemies slain in battle. The differentiation between these types is in the shape of the mouth-holes.

1157 WAR-HORN. Africa.

1158 WOODEN WHISTLE. Alaska. A good example of a type of instrument found in great variety on the Alaskan coast.

1159 DIRECT FLUTE or FLUTE-A-BEC. Arabia. Modern Arabian work. Made from joints of bamboo, with decoration.

1160 VILLAGO VI. India. This flute is sometimes called the

tone and are blown quite easily in the manner suggested by the name.

1162 SOULING. Java. A species of flute.

1163 ARGHOOL.
1164 ZUMMAREH.
1165 MIZWIZ.
} Egyptian instruments employing reeds, and represent types in common use in that country.

1166 CHENG. China. This peculiar instrument, which is looked upon with awe rather than affection in China, is a primitive mouth-organ, and is one of the most ancient of the Eastern instruments. The pipes contain metal reeds. It has a compass of fifteen tones distributed from a′ to f‴ sharp according to the peculiarities of Oriental scales. Harmonies can be produced in which Huobald would have reveled.

1167 SANZA. Benin, West Africa. In the sanza the tone is produced by thin strips of wood or metal. In this specimen (a modern one) the resonance box is decorated.

1168 SANZA. Africa. This specimen has evidently seen actual use and is more truly typical than No. 1167. Sanzas are often found which have two rows of strips arranged in such a manner that the longer strips sound octaves and often less euphonious intervals with the shorter. Of the scores examined of these notes, hardly two have been found in which the tone series were alike. They are often enclosed in cases, which in some instances are made of distinctly beautiful basket work.

1169 ZITHER or HARP. The most interesting feature of this instrument is the use of a gourd to increase the resonance. This practise is quite general in West Africa in connection with all instruments in which the tone production is analogous to this.

[illegible]ZITHER. Old German. One of the many steps in the

NO. 546. BAND INSTRUMENTS WITH BELL EXTENDING BACK OVER THE SHOULDER.

uses light hammers which are very delicately adjusted, making possible great delicacy of touch, something incompatible with any Chinese music to the ordinary mind.

1172 OMBI. Africa. This rude form of harp is very common in Africa, and although appearing in a great variety of forms, some of them very rude, while others are relatively artistic, this specimen may well stand for the type.

1173 KISSAR. Africa. The construction of this instrument displays no small amount of mechanical skill and is representative of a large class of African instruments.

1174 AFRICAN HARP. This is one of the most primitive types found in Africa, and is one of many forms. An instrument analogous to this is often met with in which the body is longer and narrower. In this form they use fewer strings and it is often mounted on a rod so that it can be held like the cello.

1175 COUCHED HARP. Persia. This shows more appreciation of music than the foregoing examples, and is also of more artistic construction. These harps are often found with artistically carved bodies and of most graceful contour.

1176 YAMADA-KOTO. Japan. Whatever may be thought of Japanese instruments on the musical side, none can deny that they are artistic, both in form and construction. Of the various forms of koto in common use in Japan, the Yamada-koto is the most important. It has thirteen strings which run over bridges. As these bridges are movable it can be tuned in various ways. It is played with plectra called tsumi, which are made of ivory.

1177 LUTE. Arabia. All the characteristic features of the lute are seen in this instrument, although in the Italian instru-

ments, and the method of application is clearly seen in this example of the Hindu guitar.

1179 SITAR. India. One of the most important of the Indian instruments is the sitar. It is sometimes called the Sundari, and this particular specimen is an unusual type called Taraffedar, from the fact that sympathetic strings are employed. It is played by a plectrum of wire. The tuning for the six-string instrument is as follows: c‴, c″, g, c′, c′, f′. This the "Panchāmas'ruti." By lowering the g string to f, the instrument would be changed to "Madhyamas'ruti." The frets may be changed according to any one of five methods, and thus different "ragas" may be played upon the instrument. The peculiar method of leading the strings from the pegs to the frets is of interest. When the frets are twenty-four in number it is not necessary to change them for the performance of any of the music commonly played.

1180 SAMISEN. Japan. One of the favorite instruments in use in that country. It has three strings, which may be tuned according to any one of three systems. It is played by a plectrum called bachi. It has no frets.

1181 BACHI. Japan. The plectrum used in playing the Samisen.

1182 SAMISEN. Japan. An instrument played with a plectrum.

1183 TAR. Persia. This instrument of the guitar family is a fine specimen of the peculiar inlaid work of Persia. The body is carved from a solid block of wood in the double gourd form. This is one of the finest specimens in existence.

1184 CITTERN. Old English. Reference is constantly made to this instrument in early English literature. Its use was so general in the middle classes in England at one time that it

bowed instruments. It has but one string and an exceedingly crude bow.

1186 BEZUK. Egypt. A somewhat more artistic form of the dervish's fiddle.

1187 SARINDA. India. A form of violin much in use by the common people of India. It has three strings tuned as follows: c′, f′, g′.

1188 SARANGI. India. The sarangi is the Indian violin. It has three strings, although occasionally four are used. The tuning of this fourth string is variable, but that of the others is invariable c, g, c. It has fifteen sympathetic strings.

1189 KOKIU. Japan. The kokiu is the Japanese fiddle. It, however, is not held to the shoulder, but rests on a peg.

1190 AUTOMATIC CLARINET PLAYER. This ingenious piece of mechanism was rescued from the fire which destroyed Barnum's Museum. The essential parts consist of a bellows to furnish the wind, a drum operating a series of levers controlling the fingers, and another set of levers which swayed the performer to and fro. It has not been repaired, but in its present condition is full of interest.

Numbers 1148 to 1190 were loaned by the University School of Music, Ann Arbor, Mich.

1191 "THE SEMINARY BELL; A VOCAL CLASS BOOK." By Charles Butler. 1861.

1192 "THE MELODIST; A COLLECTION OF POPULAR AND SACRED SONGS." By George J. Webb and William Mason. 1850.

1193 "GOLDEN WREATH." By L. O. Emerson. 1857.

1194 "THE SONG BOOK OF THE SCHOOLROOM." By Lowell Mason and George James Webb. 1851.

1197 "THE SCHOOL SONGSTER." By Asa Fitz. 1855.

1198 "JUVENILE LYRE." 1832.

1199 "THE PESTALOZZIAN SCHOOL SONG BOOK." 1855.

1200 "THE PRIMARY SCHOOL SONG BOOK."

1201 "THE ODEON." A collection of secular melodies. By C. J. Webb and Lowell Mason.

1202 "THE ACADEMY VOCALIST, ETC." By George F. Root. 1852.

1203 "SIGHT READING MUSIC BOOKS FOR PUBLIC SCHOOLS." First primary reader.

1204 "SIGHT READING MUSIC BOOKS FOR PUBLIC SCHOOLS." Second primary reader.

1205 "SIGHT READING MUSIC BOOKS FOR PUBLIC SCHOOLS." First intermediate reader.

1206 "SIGHT SINGING READING BOOKS FOR PUBLIC SCHOOLS." Second intermediate reader.

1207 HARP. Made by Naderman, Paris, beginning of the eighteenth century.

1208 "THE WREATH OF SCHOOL SONGS, ETC." By Edward L. White and J. Edgar Gould. Boston. 1851.

1209 "THE PESTALOZZIAN SCHOOL SONG BOOK." By George W. Pratt and J. C. Johnson. Boston. 1852.

1210 MUSICAL MANUSCRIPT. Between A. D. 900 and 950. A good specimen of very early illumination is found in the large letter "H" in "Hodie."

1211 A LEAF OF ANCIENT MANUSCRIPT. About A. D. 1400 or 1450. It is peculiar in its illuminated initial, for the monk who painted it has evidently caught the perspective

16. AN INTERESTING ORGAN MADE
Y LEONARD L. MARTIN. 1851.

NO. 2. CHAMBER UPRIGHT PIANO. BELIEVED TO BE THE FIRST UPRIGHT PIANO EVER MADE.

placed at the beginning of the lines. The date of the work is about A. D. 950.

1213 AN INDIAN HYMNAL. Used by the Micmac Indians in Canada.

1214 EXAMPLE OF EARLY MUSIC PRINTING. A. D. 1600.

1215 EXAMPLE OF EARLY MUSICAL MANUSCRIPT. A. D. 1588.

1216 EARLY PRINTED SCORE OF "LE TRIOMPHE DE L'AMOUR," by Lulli. Published A. D. 1681. The peculiar use of the G clef is to be noted.

1217 VOLUME OF MANUSCRIPT OF SCORE OF CIMAROSA'S LAST OPERA — "ARTEMISIA." A beautiful pen-and-ink sketch on title.

1218 SECOND VOLUME OF SAME SCORE. Showing instrumentation.

1219 OLD COLLECTION OF "AYRES AND SONGS." Interesting title-page with lute, viol di gamba, and recorders shown.

1220 "CALLIOPE." A collection of music printed in 1739. Shows a very early piece of masonic music.

1221 BOOK OF ENGRAVED MUSIC. Printed in London in 1727. Probably no nation at that time did as excellent work in music printing as England.

1222 "MUSICAL MISCELLANY." Printed at Northampton, Mass., in 1798. It shows the American use of the tune of the "Star-Spangled Banner" ("Adams and Liberty") nearly seventeen years before Francis Scott Key set his famous words to it.

1223 A COPY OF THE OLD ENGLISH DRINKING SONG "To Anacreon in Heaven," which was the original of the tune of the "Star-Spangled Banner."

1224 OLD [illegible]

1225 FIRST EDITION OF "HAIL COLUMBIA." A. D. 1798.

1226 EARLY EDITION OF "YANKEE DOODLE," possibly the earliest Boston edition. Has some quaint variations from the melody as now known.

"WASHINGTON'S MARCH," on the same leaf, was an old revolutionary favorite.

1227 CELLO. By Charles Lupot, at Lille, Germany, 1731. It is a very rare instrument, only two or three are known to be in existence, and those held in museums in the old country.

1228 HARP-SHAPED PIANO. By Andre Stein d' Augsburg Vienna. It has six pedals. Loaned by B. J. Lang.

1229 "THE VOCAL AND INSTRUMENTAL SELF-INSTRUCTOR." Bellows Falls, Vt. 1845.

1230 "COLUMBIAN REPOSITORY," by Samuel Holyoke, Exeter, N. H. 1805.

1231 EARLIEST DICTIONARY OF MUSICAL TERMS. Printed in the English language, A. D. 1724.

1232 OLD SONG (1729). Showing lady seated at spinet.

1233 "THE AMERICAN VOCALIST."

1234 "THE ANTIQUARIAN; A COLLECTION OF THE MOST POPULAR AND USEFUL ANCIENT CHURCH MUSIC." Selected by Leonard Marshall, Boston. 1849.

1235 "THE MODERN HARP; OR, BOSTON SACRED MELODIST, ETC." By Edward L. White and John E. Gould. Boston. 1846.

1236 "CARMINA SACRA; OR, BOSTON COLLECTION OF CHURCH MUSIC." By Lowell Mason. Boston. 1843.

DUETS, AND TRIOS." Printed by Thomas Badger, Boston. 1823.

1239 "BOSTON HANDEL AND HAYDN SOCIETY COLLECTION OF CHURCH MUSIC." Edited by Lowell Mason. Boston. 1833.

1240 "MELODIES, SONGS, AND SACRED SONGS." By Thomas Moore, Esq. Published by M. Corey & Son. Philadelphia. 1818.

1241 "CHRISTIAN PSALMODY IN FOUR PARTS, ETC." By Samuel Worcester, D.D. Boston. 1819.

1242 "THE BOSTON SACRED HARMONY; OR, NEW ENGLAND COLLECTION OF CHURCH MUSIC." Edited by T. Bissell. Boston. 1846.

1243 "THE ANCIENT LYRE; A COLLECTION OF OLD, NEW, AND ORIGINAL CHURCH MUSIC UNDER THE APPROBATION OF THE PROFESSIONAL MUSIC SOCIETY IN BOSTON." Arranged by Ch. Zeuner. Boston. 1840.

1244 "THE HANDEL COLLECTION OF CHURCH MUSIC, ETC." By A. N. Johnson. Boston.

1245 PHOTOGRAPH OF LOWELL MASON. "The father of American music."

1246 AUTOGRAPH LETTER OF LOWELL MASON TO HIS GRANDCHILD.

1247 PHOTOGRAPH OF BOWDOIN STREET (DR. LYMAN BEECHER'S) CHURCH. "The Birthplace of American music"; the meeting place of the "Boston Academy's Juvenile choir."

1248 ANCIENT MUSICAL MANUSCRIPT. Neume Notation. The words pasted about the year 800 or earlier; the music, added by a later hand, in darker ink, about A. D. 1000. Probably the oldest piece of music in America. The

manuscript without these markings were not to be sung, but read.

1249 OLD SONG (1729). Title showing costumes of the period.

1250 THE "BATTLE OF ROSBACH," by Mr. Bach (Johann Christian Bach, or the "London Bach"). One of the earliest of "battle pieces" for the spinet, harpsichord, or piano.

1251 "CAUTIOUS MAID."

1252 ELEVEN WAR SONGS OF THE SOUTH.

Numbers 1210 to 1226, 1231, 1232, 1248 to 1252 are from the library of Louis C. Elson.

1253 VIOLIN and BOW. Owned and used by Tom Thumb.

1254 VIOLIN. By Guadanini. 1713.

1255 VIOLIN. By Stainer. 1677.

1256 SQUARE PIANO. By Jonas Chickering for James Sharp for voice accompaniment only. Only two of this type, called "one stringed" pianos, were made.

1257 PROGRAM OF THE FIRST ITALIAN OPERA sung in Boston.

1258 PLECTRUM. Shell. For playing the biwa. Japan.

1259 SITAR. India.

1260 STRINGED INSTRUMENT. Africa.

1261 STRINGED INSTRUMENT and BOW. Africa.

1262 SHELL INSTRUMENT. Africa.

1263 STRINGED INSTRUMENT. Africa.

1264 GUDSUMI. Drum. Japan.

1265 BOOK OF MOTELS. 1590.

1266 PITCH PIPE.

THE MANUFACTURE OF SHEET MUSIC.

There are three methods of printing music: (1) from type or electrotype plates; (2) by hand press from engraved or stamped plates; (3) lithographically.

There are three kinds of plates: (1) electrotype or stereotype; (2) photo engraved; (3) stamped. The electro or stereo are relief plates, and are printed the same as type, a process with which every one is familiar. They are made from type which is put together piece by piece to make the music page. There is a separate piece for each character, the staff in small sections, the brace, the notes, the stems, the hooks, the dots, the slurs, the rests, all separate, requiring considerable skill to place together properly. There are about four hundred characters. This is called "setting up" or composition. To "set up" the type each time music is printed would be very expensive, therefore, a "cast" is made, that is, the page of type is sent to a foundry and an impression taken in papier-maché, if for stereotype, or in wax, if for electrotype.

1269 STEREOTYPE PLATE. Made of a composition largely lead. This metal is poured into the mold or impression made in the papier-maché, and gives us the exact counterpart of the type.

1270 ELECTROTYPE. It has a copper face and a lead back. After the impression is taken in wax preparation, this mold is placed in a frame, and suspended in a tank in which copper is held in solution. A battery is connected, and the current of electricity causes a thin film of copper to be deposited on the wax. This is termed "the shell." It is then filled in or "backed up" with lead, and gives a plate similar to the stereotype, but with a copper face.

1271 STAMPED OR ENGRAVED PLATE. Made of a composition largely composed of tin, and the music page is pro-

plate by a sharp, pointed instrument in the required positions, and then the characters are stamped one at a time with the aid of a hammer. The characters are thus depressed in the plate. After a plate has been stamped, it is heated and covered with a thin coating of beeswax. The wax remains in the depressions and holds the ink during the process of printing.

Electro-plates and photo-engraved plates are printed on the ordinary printing press known to most every one. The stamped plate is printed by two methods. The older is the same as that employed in printing steel or copper plate on what is called a "D" press. Two plates are placed in the press, side by side, at the proper distance apart, and the printer with a hand roller carefully covers them both with ink. He then lightly wipes it from the surface with a cloth, allowing the ink to remain in the depressions adhering to the wax. As some of the ink is liable to remain on the surface of the plate, it has to be polished off before printing. This is done with his bare hands, no satisfactory substitute having been discovered. The plates are now ready for printing. The paper, which has been wet several hours before and is now in the right condition, is placed on a rack at the side of the workman. He takes a sheet and lays over the two plates, and after placing over it another sheet of paper called a backer, to prevent offsets or smooching, he applies the pressure. The ink, having greater affinity for the paper than for the wax in the depressions, adheres to the paper. The finest lines are thus brought out. The presses are run by hand, and five hundred copies are quite a day's work.

After the edition has been printed, the sheets are hung

1272 PHOTO-ENGRAVED OR HALF-TONE PLATE. Made by photographically reproducing and etching any drawings, original manuscripts, or print on zinc or copper.

1273 TRANSFER PRINTING from lithographic stone. By this process several pages are printed at a time and at greater speed. Lithographic stones are obtained principally from Bavaria. It is a stone composed of lime, clay, and silicious earth. There are several colors, but the most in use are of a pale yellowish white. An impression is taken from a stamped plate on a paper, with a specially prepared coating and with a special transfer ink on a plank press. The proof is placed face down on a stone which has been polished and prepared for it. Pressure is applied, and when the paper is taken off, the transfer, of the music is left on the stone. It is then etched with a solution of nitric acid and gum arabic. This changes the surface of the stone, raises the work slightly, but imperceptibly. After all marks or blemishes have been removed, the stone is placed on the bed of the press for printing. The press looks like an ordinary cylinder press, but has a deeper bed, and has two sets of rollers, one for water and the other for ink. The work on the stone contains grease, for which the water has no affinity.

The acid in etching has changed the surface of the stone so that a minute film of water is retained on the surface from the water rollers. The inking rollers, running over the stone, have no affinity for the water, but do for the grease. One would think that the entire stone would be covered with ink, but such is the affinity, and so carefully is the quantity of water and ink regulated, that they never mingle, and the work comes out sharp and clear.

After the edition is run off, the stone is taken to a machine that has a revolving plane or grinder, which, with

zinc plates are used, grained to have the same surface as the stone.

1274 LITHOGRAPH TITLE ON STONE.

1275 "JULIENS MUSIC FOR THE MILLIONS."

Numbers 1269 to 1275 loaned by Oliver Ditson Company.

1276 GRAND PIANOFORTE by Chickering. 1896.

1277 GRAND PIANOFORTE by Chickering. 1900.

1278 QUARTER-GRAND by Chickering. 1900. The smallest Grand Pianoforte ever made embodying modern principles, "defining an epoch in the history of pianoforte making."

1279 MODERN UPRIGHT PIANOFORTE by Chickering. (In mediæval design.)

1280 MODERN UPRIGHT PIANOFORTE by Chickering. (In walnut, with paintings by Heyward.)

1281 MODERN CONCERT GRAND by Chickering.

1282 MODERN UPRIGHT by Chickering.

1283 CONCERT GRAND PIANO by Chickering. (Colonial design.)

1284 PORTABLE PIANOFORTE by Chickering. (But two of these instruments were made.)

1285 FINGER GYMNASIUM. The invention of Mr. B. J. Lang.

1286 SQUARE PIANOFORTE by Messrs. Linnard & Webber.

1299 NORMAL MUSIC COURSE. Third Reader. By John W. Tufts and J. E. Holt. 1889.

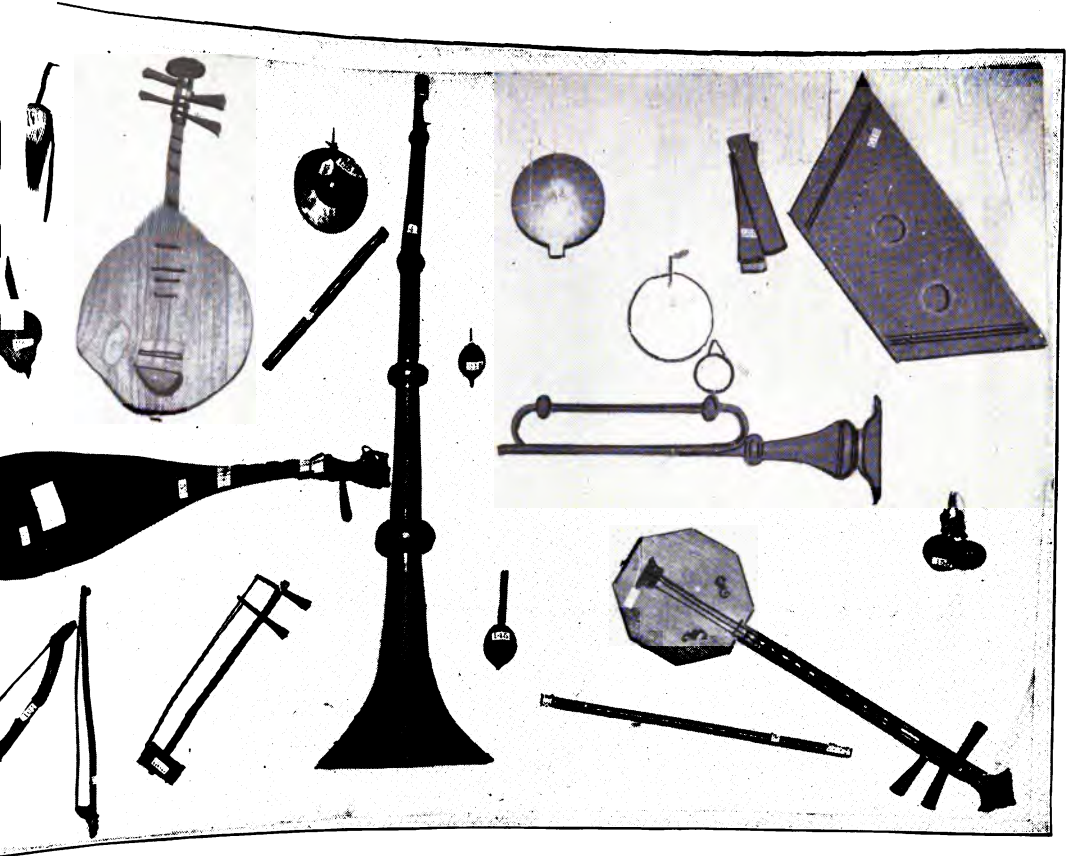
1300 NORMAL MUSIC COURSE. First Reader. 1901.

1301 NORMAL MUSIC COURSE. Second Reader.

1302 NORMAL MUSIC COURSE. Introductory Third Reader.

1303 NORMAL MUSIC COURSE. Third Reader.

1304 THE ÆOLIAN COLLECTION. Third Reader. Supp[illegible]



A GROUP OF CHINESE INSTRUMENTS.

methods through the Normal Music Course, the Cecilian Series of Study and Song, the Common School Course.

1306 THE CHILD'S FIRST STUDIES IN MUSIC. For the kindergarten, the primary school, and the home.

1307 THE CECILIAN SERIES OF STUDY AND SONG. Book I. For one voice.

1308 THE CECILIAN SERIES. Book II. For soprano and alto voices.

1309 THE CECILIAN SERIES. Book III. For unchanged voices.

1310 THE SILVER SONG SERIES. No. 1. Recreation songs. For one voice. First and second grades.

1311 SILVER SONG SERIES. For supplementary use. No. 2. Part songs and choruses for the second and third grades.

1312 SILVER SONG SERIES. No. 3. Part songs and choruses for third and fourth grades.

1313 SILVER SONG SERIES. No. 4. Part songs and choruses for fourth and fifth grades.

1314 SILVER SONG SERIES. No. 5. Part songs and choruses for fifth and sixth grades.

1315 SILVER SONG SERIES. No. 7. Part songs and choruses for seventh and eighth grades.

1316 SILVER SONG SERIES. No. 8. Part songs and choruses for eighth and ninth grades.

1317 SILVER SONG SERIES. No. 10. Sacred songs for children.

1318 SILVER SONG SERIES. No. 12. Recreati

1320 THE RUDIMENTS OF MUSICAL NOTATION by Wm. D. Armstrong.

1321 THE ELEMENTS OF VOCAL HARMONY. For high and normal schools. By Hugh A. Clark.

1322 CHILD LIFE IN SONG. For kindergarten and school. By John W. Tufts.

1323 THE SONG CHAPLET. Adapted for girls' high schools, colleges, etc. By J. Harry Deems.

1324 POLYHYMNIA. A collection of quartettes and choruses for male voices in three and four parts for young singers in schools.

1325 SONGS OF THE NATION. For the use of schools, etc. Compiled by Charles W. Johnson.

1326 THE BEACON SONG COLLECTION. For schools, colleges, and choral societies. By Herbert Griggs.

1327 THE BEACON SONG COLLECTION. No. 2. For use in high schools, academies, etc.

1328 THE EUTERPEAN. A collection of songs and choruses for high schools, etc. By John W. Tufts.

1329 TIME BEATER. For schools.

1330 PITCH PIPE. For schools.

1331 NORMAL MUSIC COURSE CHART. First series.

1332 THE NORMAL COLOR LADDER.

1333 RUSSELL'S CHROMATIC LADDER.

1334 THE CHILD'S FIRST STUDY IN MUSIC CHARTS. For the kindergarten, the primary school, and the home.

1338 NORMAL MUSIC COURSE CHART. Second series.

1339 RACK.

1340 NORMAL MUSIC COURSE. Rhythmic chart.

1341 MUSIC CHART RACKS.

1342 MUSIC CHART RACKS.

1343 SQUARE PIANO. By Lemuel Gilbert, 416 Washington Street, Boston. About 1830.

1344 MARBLE BUST OF JONAS CHICKERING. By Thomas Ball. Jonas Chickering was the second son of Abner Chickering, a blacksmith, and an excellent farmer, of New Ipswich, N. H. The father resided for several years at Mason Village, and shortly after the birth of Jonas, in 1798, he purchased a farm, known as "The Knowlton Place," in New Ipswich, where he resided until his death, in the year 1841, at the age of seventy-four. His children were Mary, Samuel, Jonas, Melinda, Eliza, Rebecca, and Charles. Jonas, like others of his age, was required to work on the farm, but this employment was not to his liking; his genius was more inclined toward the construction of the implements of agriculture than to the use of them. Accordingly, at the age of seventeen, he went to John Gould to learn the art of cabinet-making, and remained with him for a period of three years. During his apprenticeship he became interested in the construction of pianos. He came to Boston and entered the employ of Mr. John Osborne, where he acquired a thorough knowledge of the piano business. In the next ten years we find Mr. Chickering associated at various times with Mr. Osborne and Mr. Stewart, and in the year 1830 with Mr. John Mackay.

Jonas Chickering made a thorough study of scale drawing, and his efforts in this direction show him to have been a man of genius, but the invention of the iron frame, first sug-

CHICKERING UPRIGHT PIANOFORTE, 1830